

THE EASTERN ANTHROPOLOGIST

Vol. XIV, No. 2

May-August 1961

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INFORMATION FOR CONTRIBUTORS

The Eastern Anthropologist publishes original articles on all branches of anthropology, (Ethnography, Folklore, Social Anthropology, Physical Anthropology, Archaeology, Prehistory and Linguistics). Contributions may be long essays, brief communications or book reviews. Book-reviews are usually written on the Editor's invitation but reviews sent by contributors on their own initiative may also be accepted for publication.

All communications accepted for publication must be signed in full by the authors. The Executive Committee of the Ethnographic and Folk Culture Society, U. P., desires it to be understood that in giving publicity to them it accepts no responsibility for the statements and opinions expressed by the authors.

Articles, brief communications and reviews should be sent to :

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The Eastern Anthropologist,
Department of Anthropology,
Lucknow University, Lucknow, India.

Manuscripts must be typed (double space) on one side of sheet only, preferably on Demy quarto paper. Footnotes should be given at the end of the paper and numbered consecutively throughout the paper. References to literature should be carried within the text stating author's last name, year of publication and page, e.g., (Majumdar 1950 : 125). The author's name should not be included if it already occurs in the text, e.g., (1950: 125). Bibliography should be listed alphabetically by author and chronologically for each author. Book review headings should be prepared as follows: Title (in capitals), author's name, place of publication, publisher's name, year of publication, number of pages and price. Current issues may be referred to for details.

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[May—August 1961

NOTES AND COMMENTS

We are sending the typescript of this Summer Issue to the press nearly ten months after the death of our late editor, Professor D. N. Majumdar, in May last. Since then several learned journals, including *Man*, *American Anthropologist*, and *Man In India* have published obituary notices. We have taken longer than others because we wanted to publish along with the obituary as complete a bibliography of Majumdar's published work as possible. This was no easy task as Majumdar wrote a great deal, but did not maintain a list of his published articles, not to speak of a complete file of them. Shri Gopala Sarana has assembled together an extensive bibliography which we are publishing in this Issue along with an obituary notice. If more titles come to our notice hereafter we will publish a supplementary bibliography in a later Issue. The co-operation of our readers is invited in this connexion. We will feel highly obliged if they will inform us of any such published articles with which they are familiar but which are not included in the bibliography printed here.

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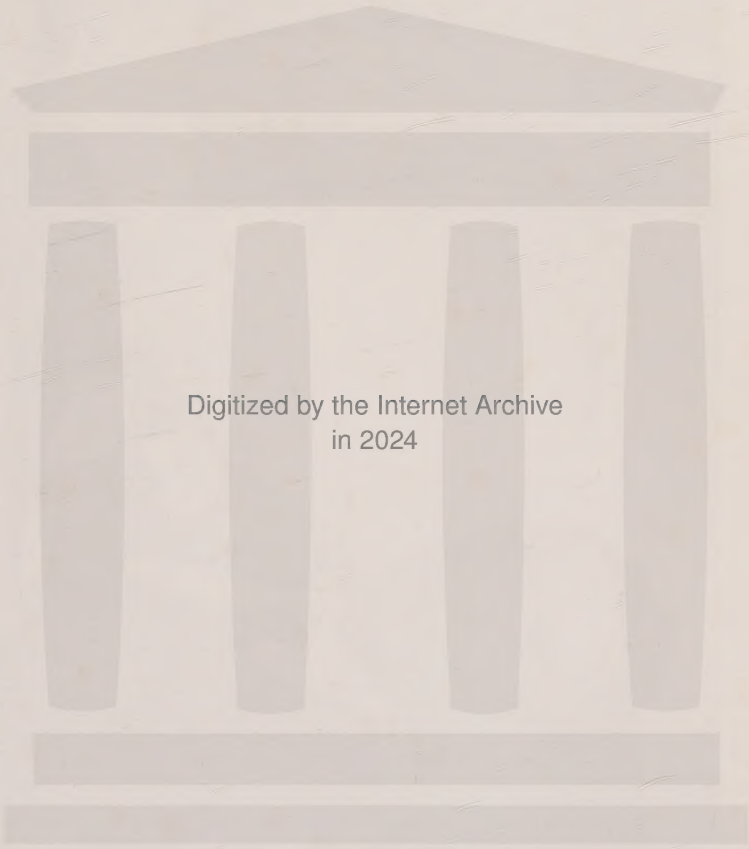
This is the Tagore centenary year. Tagore's great contributions to all aspects of modern Indian culture—literature, painting, music, a world-view—are well known and will be recalled all over the world this year. We have pleasure in publishing in this Issue a study of one of his major dramatic works, viz. *Chandalika*. (The author of the paper is a teacher of English literature in a college in Punjab). Folklore collected directly from the field has long been one of the major sources upon which anthropologists have drawn for information concerning the customs, practices and world-views of peoples. The former suspicion of written sources is nowadays more a memory than a creed with social anthropologists. Tagore was, of course, not an anthropologist, but as a sensitive observer he recorded many facets of rural life in Bengal which should interest the social anthropologists a great deal.

* * * * *

Also published in this Issue is a paper and a review by Shri R. D. Singh who is now with the Department of Anthropology, Government of India. However, his contributions printed here were received by us earlier in 1960 before he joined the Department.

* * * * *

We are glad to inform our readers that *The Eastern Anthropologist* has been selected as one of the "central" journals the list of contents of each Issue of which will be published in advance in *Current Anthropology*. We received a communication to this effect from Professor Sol Tax, Editor of CA some time ago, and hereby record our thanks for the honour done to *The Eastern Anthropologist*.



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D. N. Majumdar (c. 1955)

DHIRENDRA NATH MAJUMDAR

(1903-1960)

GOPALA SARANA

Department of Anthropology, University of Lucknow

When a person passes away, those who knew him go over his life in their minds in fond memory and almost unconsciously evaluate it. They think of the way he lived and also of the manner of his death. They think of the qualities of head and heart he possessed. They also ponder over his 'Church and creed'. They take some consolation in the fact that their own loss is shared, if it is, by many, besides themselves. Professor Majumdar's sudden death, from a cerebral hæmorrhage on May 31, 1960, at his Lucknow residence, after an extremely busy day's work, grieved hundreds of people. To say nothing of the local newspapers, his passing away was "regretted far beyond the frontiers of his own country" (Furer-Haimendorf). In his long teaching career Dr. Majumdar banished many tears and brought back many a smile. Both his Church and creed were focussed upon his devotion to anthropology and his passion for its establishment and expansion in India.

Professor D. N. Majumdar was born of Bengali parents, at Patna, in the year 1903. After a very brilliant student career he obtained his Master's degree in Anthropology from the Calcutta University in 1923-24. He stood First in First class. In his, more than thirty years', long academic career many honours and distinctions came Dr. Majumdar's way. In the early decades of the twentieth century the Premchand Roychand Scholarship was the most coveted honour the Calcutta University could bestow upon her graduates. Great scholars vied with each other for that. Prof. Majumdar distinguished himself in 1926 by winning the Premchand Roychand Scholarship (P. R. S.) of his Alma Mater.

In the mid-twenties Dr. Majumdar turned down his nomination for a sub-deputy collectorship and started his anthropological field-work in Chota Nagpur. In his own words, at Ranchi he was initiated "in anthropological field work by an illustrious Indian anthropologist, the late Sarat Chandra Roy". He always owed a sense of gratitude to Sri Roy for this early training in all-embracing ethnography.

In 1928 he joined the Department of Economics and Sociology, Lucknow University, as a Lecturer in primitive economics. He was made Reader in Anthropology in 1946. It was only after twenty-two years of service that the University of Lucknow created for him a professorship in anthropology in the Department of Economics and Sociology in the year 1950. At that time Professor Majumdar was 47 years of age and his international reputation in his subject had been established long before. He served this university for over three decades with great distinction. He will always be remembered as one of its greatest, most renowned and illustrious teachers.

At the time of his death he was not only the Head of the Department of Anthropology but also the Dean of the Faculty of Arts.

In 1929 Dr. Majumdar became the recipient of the Mout Gold Medal. Even after coming to Lucknow in 1928 he retained his contact with the Hos of Kolhan. Later he went to Cambridge to write his doctoral dissertation on culture contact and acculturation among the Hos of Kolhan under Hodson. In 1935 he obtained a distinction rare for an Indian to achieve in those days. He was admitted to the degree of Doctor of Philosophy in the University of Cambridge. While at Cambridge he was appointed to deliver a course of lectures in that University. He was the first Indian to obtain such a distinction in anthropology from any English university. Subsequently he was elected a Fellow of the Royal Anthropological Institute of Great Britain and Ireland. He was also asked to give a series of lectures on Indian Culture at Vienna during the academic session 1936-37.

At Cambridge he got advanced training in physical anthropology from G. N. Morant and R. R. Gates. He further learnt the then latest seriological techniques at the Galton Laboratory in London. While in England Professor Majumdar attended Malinowski's seminars. Perhaps he saw Malinowski at the latter's best. He was deeply influenced by him. In his classes he would discuss Malinowski's contributions to social anthropology feelingly and regarded him as his teacher. His visit to the United Kingdom in the thirties was the focal point of his career in anthropology. He got himself acquainted to the latest developments in both physical and social anthropology. He always kept himself abreast of the most recent advances in both these subdivisions of anthropology.

On his return to India Dr. Majumdar presided over the Anthropology and Archæology Section of the 26th session of the Indian Science Congress held at Lahore in 1939. At a comparatively young age of 38 years, in 1941, he was elected a Fellow of the National Institute of Sciences of India.

In 1941 the decennial census was being taken in the country. The then Census Commissioner, M. W. M. Yeatts, initiated a scheme of an anthropometric and serological survey for the then United Provinces (now Uttar Pradesh). Dr. Majumdar was invited to carry out the scheme. On a random sample basis he measured about 3000 persons belonging to 21 social groups, castes and tribes, and blood-grouped about 4000 persons. This was for the first time in India that large scale serological tests were carried along with anthropometric measurements. Anthropometric data were statistically treated by Professor P. C. Mahalanobis. The results were published in the form of a monograph in 1949. Dr. Majumdar was invited by Prof. Mahalanobis to undertake an anthropometric, serological and health survey of undivided Bengal in 1945. About "4000 men were measured representing Hindus and Muslims and all the important tribes and castes of the Province, blood groups of 4000 people were tested and a large amount of data on the variation of hæmoglobin percentages and blood pressure from

occupation to occupation studied." The results were analysed and published in 1960. At Gujarat Research Society's invitation Dr. Majumdar carried out a similar anthropometric and serological survey for Gujarat in 1946.

Prof. Majumdar retained his multi-directional interest in a remarkable way. Along with the anthropometric and serological data he never failed to collect ethnographic details about the tribes and castes he studied. Among the Indian anthropologists of his generation he had the most extensive first hand knowledge of the peoples of our country. He knew the Ho of Chota Nagpur and the Khasa of Jaunsar-Bawar as intensively as it were possible to do with reservation and detachment. The peoples of Bengal, Gujarat and Uttar Pradesh and the aboriginals of the Bastar State were also very well known to him.

In connection with his anthropometric and serological survey of Uttar Pradesh (in 1941 the United Provinces) Dr. Majumdar was able to establish an Anthropological Laboratory in the Lucknow University. He was then only a Lecturer in the Department of Economics and Sociology. This may be taken as the beginning of the process of establishing anthropology at the Lucknow University which culminated when an independent Department of Anthropology was created in 1951. In 1945 he established the Ethnographic and Folk-Culture Society, U. P. with Sir Sita Ram as its President. The University of Lucknow made him Reader in Anthropology in the Department of Economics and Sociology in the year 1946. In the following year Dr. Majumdar started a quarterly journal, entitled the *Eastern Anthropologist*, under the auspices of the above mentioned Society. He was its first editor and continued in that capacity till the last day of his life. The University of Lucknow created for him a Professorship of anthropology in 1950 and gave him the headship of an independent Department of Anthropology the following year.

Apart from the scheduled lectures before his students Professor Majumdar also lectured extensively inside the country and abroad. The Government of India invited him in 1942 to initiate the Indian Civil Service probationers in anthropology. Dr. Majumdar delivered a course of six lectures on Indian 'Races and Cultures' at Dehra Dun, which subsequently was published under the title of 'Races and Cultures of India' (1944). He was the first anthropologist to do so. In 1943 Dr. B. S. Guha delivered another course of lectures to the next batch of trainees. The Nagpur University honoured Dr. Majumdar by inviting him to deliver 'Sri Mahadeo Wathodkar Foundation Lectures' in 1946. These lectures were later published as the *Matrix of Indian Culture* (1947). He also lectured at the Cornell University, Ithaca, N. Y., where he visited as Professor of Far Eastern Studies for the Fall, 1952-53. He visited London twice between October 1957 and July 1959 and was to go there during 1960 summers also. He lectured at the School of Oriental and African Studies, University of London, and also addressed the Royal Anthropological Institute. During his 1959 visit abroad he went to Holland. He delivered four lectures,

at the Hague, on Indian social anthropology which were very much appreciated.

In 1950 the Gujarat Research Society awarded to Dr. Majumdar their Medal for his outstanding contribution to Indian physical anthropology. His position of the doyen of the Indian anthropologists became internationally acknowledged when in 1952 he was invited to represent India, Pakistan and Ceylon at the Wenner-Gren Foundation International Symposium on Anthropology. It should be remembered that for this world survey of the status of Anthropology the Symposium participants were selected "not merely as outstanding specialists but for their ability to synthesize the views of others and their broad grasp of anthropology in its totality". At the symposium he was further honoured by being made co-chairman with Julian H. Steward of one of the sections for the appraisal of the "inventory" papers. In 1953 the American Association of Physical Anthropologists honoured him by electing him its Foreign Fellow. Dr. Majumdar was a member of the International Union for the Scientific Study of Population. The World Population Conference 1954 was held in Rome under the auspices of United Nations Organization. He attended the Conference as a delegate. From Rome he went to France to take part in International Sociological Congress. He became the second General President of the Indian Sociological Conference in 1956. In 1958 he was awarded the Annandale Gold Medal for his contributions to Asian anthropology.

Like the English language, anthropology in India is the gift of British imperialism. To administer the 'natives' properly it was necessary to know them and their customs. It was in the latter half of the nineteenth century that treatises on "administrative ethnography" were attempted first of all. Sir Herbert Risley and the 1901 census will always be remembered in the history of Indian anthropology. William Crooke was one of the earliest collaborators of Risley in this *formative* period of Indian anthropology. He was the author of the famous monograph series entitled 'The Tribes and Castes of the North-Western Provinces'. Crooke has very aptly characterized the specialities of the officially inspired ethnography thus: "treatises on tribes and castes have been compiled in various provinces in India... under orders of the local governments, not so much in the interests of anthropological research, but as indispensable aids to the work of civil administration. And the wants of the Magistrate and Collector and those of the anthropologist are very different" (MAN IN INDIA, 1921, Vol. 1, p. 2). The famous Dr. J. H. Hutton entered Indian service in the formative period of Indian anthropology in 1913. His anthropological contributions started pouring in a new period, the 'constructive' period, of Indian anthropology. All along his stay among the Nagas Dr. Hutton was in close touch with Professors Balfour and Dixon of Oxford and Harvard universities respectively.

Rai Bahadur Sarat Chandra Roy was the first person who made his mark in Indian Anthropology without being a civil servant. He was self-trained in anthropological traditions. He was the in-

novator of the nonofficial ethnography. He was the first, in this country, to initiate "the tradition of the first-hand field investigation spread over several years conducted through the tribal dialects". Roy made the best use of the anthropological techniques developed in his days. His monographs provided us with informations on almost all the categories, including Origin and History, which were considered most important in the anthropology of the early few decades of the present century. Roy was also first to put Indian ethnography on the map of the English speaking world of academic anthropology. It is evident by the praise of his works by such pioneers as Haddon, Frazer, Marett, and Dixon etc. It is worth noting that Majumdar was initiated in anthropological field work in mid-twenties by Sri S. C. Roy.

Professor Majumdar entered Indian anthropology in, what has said that there are three types of anthropologists in India : (1937). In this period anthropology gained an academic status because of its inclusion in the curricula of the Calcutta University in 1920. The Calcutta orientation to Indian anthropology was given by such self-trained anthropologists as L. K. A. Iyer, B. A. Gupte, R. P. Chandra, H. C. Chakladar and P. Mitra. Dr. Majumdar has said that there are three types of anthropologists in India : (1) anthropologists by training ; (2) anthropologists by preference ; and (3) anthropologists by accident. He was one of the earliest trained anthropologists of our country and himself trained hundreds of students. In the 'constructive' period S. C. Roy continued writing tribal monographs. Among the British civil servants Messrs. J. H. Hutton and J. P. Mills enriched Indian anthropology by their descriptive ethnographic accounts ; particularly worthy of mention are the ethnographic notes by Hutton and others in Reports on 1931 Census of India Vol. I, part III. But in this period it was Majumdar who, in J. H. Hutton's words, marked a 'new departure in the Indian ethnological literature', by his 'A Tribe in Transition' published in 1937. In this book he had presented an ethnographic study with a difference. Few could attempt, in those days, an acculturation study which "dealt primarily with the forms of a dissolving social structure". This was the first attempt, in Indian anthropology, towards theoretically oriented ethnography.

The third, or, the 'critical', period is said to have started with the Silver Jubilee session of the Indian Science Congress in 1938. Progress of Indian anthropology was assessed and plans for future research were discussed. On the occasion of the 26th session of the Indian Science Congress a five year plan of anthropological research was formed and Prof. P. C. Mahalanobis advocated for a more intimate liaison between anthropologists and statisticians. Dr. Majumdar was first to set the example by his extensive racial surveys. This critical period of Indian anthropology can be said to have ended in 1951. In social anthropology Prof. Majumdar published his classic monograph on the Hos of Kolhan (1950). He also wrote about the Fortunes of Primitive Tribes of U. P. This period is also notable for Dr. Verrier Elwin's contributions

to Indian anthropology, particularly his *Muria and Their Ghotul* (1947).

The *contemporary* period started with international recognition of status of Indian anthropology in 1952. It is to be noted that the sole representative of Indian anthropology at the Wenner-Gren Foundation International Symposium was Dr. Majumdar. Village studies have been the order of the day. Prof. Majumdar did not lag behind even here. He, not only came forward with a 'model' of what anthropological village studies ought to be, but, even undertook the unconventional task of demarcating the social contours of an industrial city. Along with these he also undertook and completed the evaluation of administratively engineered social change and its impact in two widely different areas.

In the last one quarter of a century Professor Majumdar always remained in the forefront in Indian anthropology. He was the innovator of acculturation studies as well as theoretically-oriented ethnography in this country. Though he was deeply influenced by Malinowski he never borrowed a ready made theoretical framework to fit in his field data. It has been well said that neither his interest became outdated nor his methods stale. We do not know of any Indian anthropologist, other than the late Dr. Majumdar, who, besides writing tribal monographs, has studied various tribes in transition, has presented a model of anthropological village study, and at the same time has attempted to delineate the social contours of an industrial city; all done in a masterly style. Many may assign Majumdar a place by the side of descriptive ethnographers. I wonder if it is a correct estimate. Indian anthropology has yet to produce a 'general' theorist so, we can talk only in terms of, what Talcott Parsons calls, 'clinical' theory. I have no hesitation in saying that he was one of the prominent clinical theorists Indian anthropology has known up to date. That his gift was not only for descriptive ethnography is particularly borne out by his village study. Here one finds the first attempt by an Indian anthropologist to build up an anthropological model after the study of an Indian village.

Risley was the first, through his 'People of India', to give a seven-fold classification of Indian races. He based his classification on the analysis of the anthropometric data collected under his supervision. R. P. Chanda's 'Nishadic' hypothesis and his plea for the presence of an Indo-Alpine element in the Indian population were mainly the outcome of his learned study of the historic and protohistoric sources. In the early twenties P. C. Mahalanobis biometrically analysed the anthropometric data of Risley and N. Annandale. Frhr. von Eickstedt, the leader of the German-Indian Expedition during 1926-29, presented his scheme of the stratification of races and cultures in India based on the measurements of 3000 persons belonging to various groups. In connection with the census operations during 1930-33 Dr. B. S. Guha measured 4000 persons. For the statistical analysis of the data he used Karl Pearson's Coefficient of Racial Likeness. He concluded that the basis of the Indian population in general was a short dolicocephalic strain with high

head and moderately broad nose ; the tribal groups revealed a definitely Negrito strain.

Between 1941 and 1946 Dr. Majumdar conducted as many as three racial surveys. In 1941 he measured persons of various tribes and castes in the state of Uttar Pradesh (then the United Provinces). In 1945 he carried out a similar racial survey in the undivided Bengal. In the following year he was, again measuring thousands of persons in the Gujarat Research Society sponsored racial and health survey of Gujarat, Kathiawad and Kutch. It is worth noting that the same investigator, i.e., Professor Majumdar, took all the measurements and thus provided comparable anthropometric data for about 10,000 people. Up to date no other Indian anthropologist has taken so many measurements. For the analysis of his data Prof. Majumdar combined with Professor P. C. Mahalanobis and Dr. C. R. Rao. Besides Fisher's discriminant function Mahalanobis, Majumdar, and Rao's D^2 or the "generalised distance statistic" is the other most favoured statistico-axonomic method in the biometrical anthropology, says H. Vallois in the *Anthropology Today*.

L. and H. Hirzfelds were the first to blood group a sample of 1000 Indian soldiers in Macedonia during the First World War. It is alleged that their sample was a heterogeneous one. R. H. Malone and M. N. Lahiri dealt with a sample of 2357 in their comprehensive serological survey on Indians. Mrs. E. W. E. Macfarlane's was the most extensive of the serological researches carried out in this country in the thirties. Drs. S. S. Sarkar, A. Aiyappan and I. Karve also filled some gaps in the blood map of our country. During his racial surveys Professor Majumdar blood grouped thousands of persons of various tribes and castes of Bengal, Gujarat and Uttar Pradesh. He used the latest standard techniques for the collection of the data. At the time of his death Prof. Majumdar was engaged in making a fresh study of the ABO and RH blood groups of the criminal tribes of Uttar Pradesh.

It was Herbert Risley who gave a lead by pointing out a racial basis of Indian tribes, and caste pattern. No one followed him up. On the basis of his racial survey Majumdar attempted to point out a genetic relationship between the peoples of Uttar Pradesh with those of Bengal and Punjab. In the Uttar Pradesh population Dr. Majumdar found that those castes which were close to each other in the caste hierarchy and thus constituted clusters were also close to each other in biometric variation. He took Risley's crude correlations several steps further and thus for Uttar Pradesh established a 'biometric basis' for the hierarchical organisation of the caste pattern.

Professor Majumdar's research interests in physical anthropology were not restricted to the study of the racial characters. In 1932 Mr. A. N. Chatterjee published the results of his first studies on the Health and Growth of the (2500) Bengali students between the ages of 15-22 years. Mr. Chatterjee's main concern was with vital capacity. In 1951 Dr. Majumdar came out with his 'anthropological study of growth among school children in Lucknow'. In

many ways it was a landmark in physical anthropological studies in India. Dr. Majumdar was instrumental in piloting a research project on a cross-sectional study of the growth among children, during the second Five Year Plan period, under the auspices of the Indian Council of Medical Research. Under his Directorship a station was opened at Lucknow with a team of research officers consisting of doctors, anthropologists, statisticians and social workers. Under his supervision and overall guidance about 30,000 cases had already been dealt with.

In the death of Professor D. N. Majumdar the country has lost a great savant, a noble son. Anthropology in India has been deprived of its most vigorous and vocal exponent, its unquestioned leader. Even in his fifty-eighth year, the doyen of the Indian anthropologists, was far from being old in either body or mind. He possessed a peculiarly exuberant spirit. He would enthuse and infect all those, who came in his close contacts, with a unique passion for hard work. The magnetic charm of the personality of this great teacher, and equally great institution-builder, attracted lots of students to the Department of Anthropology, Lucknow University. He was its creator and always regarded it as 'the core of his life work'. In only a short span of a decade he put the Department on a firm footing. He succeeded in building up an enviable reputation for it inside the country as well as abroad. Professor Furer-Haimendorf thinks that it "has for many years been the most active department of anthropology in the whole of South Asia".

Professor Majumdar's approach to academic problems was anything but dogmatic or doctrinaire. His tolerant spirit and wide catholicity were befitting attributes of a great scholar like him. His indefatigable industry, his profound and wide scholarship, his fine reasoning and his excellent expression are still 'living models for his students'. In all these years Lucknow had forged ahead a sort of unity of approach. Certain leading foreign anthropologists have named that 'Lucknow School of Anthropology'. But Majumdar was too broad-minded to foster any rigid school ties amongst his students. He was ever ready to learn. That is why he loved the company of youngmen. This fact endeared him to the young people who admired, loved and respected him from the cores of their hearts. He had a peculiar knack of collecting good and sincere students around him and of keeping them engaged in work. D. N. Majumdar was the greatest *academic anthropologist* India has produced up till now.

BIBLIOGRAPHY OF THE LATE PROFESSOR D. N. MAJUMDAR

(COMPILED BY GOPALA SARANA)

The following abbreviations have been used :—

- AAT An Appraisal of Anthropology Today, Sol Tax et al (eds.),
Chicago : The University of Chicago Press.
- EA The Eastern Anthropologist, Lucknow.
- HV Hindi Vishva-Bharati, Shrinarayan Chaturvedi (chief ed.),
Lucknow : Educational Publishing Company Limited.
- JGRS Journal of the Gujarat Research Society, Bombay.
- JPASB Journal and Proceedings of the Asiatic Society of Bengal, Calcutta.
- JRASB The Journal of the Royal Asiatic Society of Bengal, Calcutta.
- MII Man in India, Ranchi.
- PISC The Proceedings of the Indian Science Congress, Calcutta.
- 1923a. "The custom of burning human effigies", MII, Vol. 3:97-103.
- 1923b "Notes on Kali-nautch in the district of Dacca", MII, Vol. 3:202-16.
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- 1924b "Some of the characteristics of Kolarian songs", JPASB, Vol. 20: 181-92 ; also P (Abstract), (Twelfth) ISC, p. 265.
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- 1925d "The Hargari and its origin", MII, Vol. 5:199-204.
- 1925e "Religion of the Kols" (Abstract), P (Twelfth) ISC, p. 263.
- 1925f "The significance of totemism" (Abstract), P (Twelfth) ISC, p. 265.
- 1925g "The physical characteristics of the Kols" (Abstract), P (Twelfth) ISC, p. 266.
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THE NATURAL SCIENCES AND THE STUDY OF MAN : THE PROBLEM OF THEIR SYNTHESIS IN CONTEMPORARY CULTURE

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It is usual to treat this problem in the context of two ideas which have been enjoying a great vogue these days. One is the Two Cultures theory propounded recently by Sri C. P. Snow in his Rede Lectures (1959) and the other is the project of General Education.

Sir C. P. Snow's theory of two cultures—the Scientific and the Humanist—and his urgent plea for their synthesis have attracted unusually widespread attention and controversy in both academic and non-academic circles. This is perhaps symptomatic of a deep and anxious schism in our culture today intimations of which are also found in certain themes of contemporary anthropology : Folk and Urban Culture, Little and Great Traditions (Parochialization and Universalization), Part-World and Whole-World, core values and the twilight zones of cultural systems. It may be convenient to begin with a brief review of Snow's thesis which will enable us to see that the problem of fragmentation and wholeness of culture is usually raised and considered at a superficial level. From this I shall pass on to the theory of knowledge where the problem properly belongs.

* * * * *

If we assume that our age has developed two almost parallel cultures (or, should one call them sub-cultures ?) the Scientific and the Liberal-Humanistic, we would be hard put to it to explain how a synthesis of the two could ever be achieved. For, in so far as both of them are supposed to be within the Modern Western Society, they must share certain common values. So long as the two cultures (or Sub-Cultures) do not deviate too far from the common value System, so long as the participation in this value system of both or any one of them is not marginal—there cannot arise any serious problem of their synthesis. Local problems of over-specialization may arise and vigilance may have to be exercised to keep in check tendencies towards professional narrowness and over-specialization. But the rootedness of both cultures and the two elites in an overarching tradition should be enough for an intellectually healthy age, for this provides structural guarantees against disintegrating forces. If, however, the scientific or the humanistic culture has gone too far in its disrelation to the Common Value-System, there does not seem to be any point in seeking a synthesis ; for, in such a situation the common tradition has already been undermined and any synthesis of or coordination between the two cultures and orders of knowledge is in the last analysis, bound to be a mutual misunderstanding. I think this is our present predicament, and our real problem is that of restoring (or

finding an adequate substitute for) our common Tradition—a tradition which transcends both scientific and humanistic cultures—a tradition rooted in what the Indian Philosophy calls *Para Vidya* (परा विद्या). I shall return to this at the end of this essay, for my point is to show that any scheme of synthesising various sub-cultures, the Little and the Great Traditions, to use another current term—any hope of understanding different cultures will be essentially unsound and ultimately unsuccessful unless it presupposes a tradition of *Para Vidya*.

But why should there be such an urgent need for a synthesis of different cultures and sub-cultures and in particular for a rapprochement between the student of Nature and the student of Man? Sir C.P. does not say much about it directly. He talks about the Scientific and the Industrial Revolutions and it is clear that he is thinking of our responsibilities to what is called the Industrial Society, though I must confess, I do not know to what precisely this concept refers if not to the contemporary disintegrating society. But this would hardly do, for who would want an adjustment to a society in decline? (As if to obviate this objection, the contemporary Industrial Society is said to be a "Transitional Society". Since, however, a transitional society is necessarily to be transcended, the idea of adjustment must refer to a post-modern trans-industrial Society. But then do we have any clear notion about it—except the blind hope that it will somehow be millennial?)

The Scientific and the Humanist Cultures in the contemporary urban society are, it is true, formally placed at par; but this is hardly more than professional courtesy. The inalienable faith of the Modern scholar is in Science: the study of Man and the Humanist culture can be respectable only in so far as they are imbued with the "scientific spirit". Both Sir C.P.'s plea for a synthesis of the "Two Cultures" and the American project of General Education are only incidentally concerned with the temperamental differences and the mutual indifference between the two factions of the modern academic elite. In their true intent they are, each in its own way, pleas for realism in humanistic studies. The implicit challenge is: Admitted that humanistic culture is not wholly superfluous—that metaphysics cannot be eliminated and that it is vital for the reconstruction of man and society. But—and this is a big proviso—the study of Man cannot perform its role so long as its antiquated worldview is not reformed and moderated in the light of modern scientific developments. I am sidestepping for the present the logical difficulty of moderating one worldview by another or of evolving a synthesis of the two: a proposal that is becoming quite fashionable among anthropological discussions of unity and diversity of cultures. (Cf. F. S. C.: Northrop: 1946). But I do think it is necessary to examine a theory which, in differing forms, is very widely held and which, in my opinion, forms the background of the above position. For want of a more suitable label, I propose to call it the Lag theory of Cultural Crisis.

According to it, the apparent decay of the modern society and culture is really a crisis of transition. A series of scientific and

technological advances have steadily, though not always spectacularly, brought about a complete transformation of the mediæval society. We have failed to understand the full implications of this change, and consequently have been too slow in making corresponding changes in our values, attitudes and social relationships. What appears as social disintegration is only a case of all round maladjustment due to the disproportion between the rates change in technological and scientific fields on the one hand and the socio-cultural (including the economic organisation) on the other. One of the fundamental causes of this malproportion is the extremely retarded development of the Social Sciences. Once we succeed in bringing the study of man on a level with the modern study of nature, the foundation would have been laid for the future socio-cultural order. When human sciences come of age, we will not only know what the proper values and norms are : we will also be in command of the means and techniques whereby we can be made to like and adopt them.

Unless one accepts this analysis of the contemporary human situation, one will find it difficult to appreciate the position of those who emphasise the imperative need of adjusting to Industrial Society. It is from this that the need for a proper balance of science and the humanities in higher education arises. A brief examination of this theory is, therefore, necessary so that we may be aware of its far-reaching implications.

The first thing to be clear about is the meaning of the phrases conquest of Nature, Control of Nature and the like. For it is this aspect of natural science which appeals most to modern scientific students of Man and Society and which mainly they have in mind when they talk of making adjustment to the emergent Social System. On the meaning of the idea of mastery over nature—on the positive value of which the specificity of the modern society is based—I beg leave to quote rather at some length Professor C. S. Lewis's uncommonly lucid and acute analysis : "Nature," he says, "is a word of varying meanings which can best be understood if we consider its various opposites. The Natural is the opposite of the artificial, the Civil, the Human, the Spiritual and the Supernatural. The Artificial does not now concern us. If we take the rest of the list of opposites, however, I think we can get a rough idea of what men have meant by Nature and what it is they oppose to her. Nature seems to be the spatial and the temporal, as distinct from what is less fully so or not so at all. She seems to be the world of quantity as against the world of quality, of objects as against consciousness : of the bound as against the wholly or partly autonomous : of that which knows no values as against that which both has and perceives values : of efficient causes (or in some modern systems, of no causality at all) as against final causes. Now I take it that when we understand a thing analytically and then dominate and use it for our own convenience, we reduce it to the level of nature in the sense that we suspend our judgement of value about it. . . . We do not look at trees either as Dryads or as beautiful objects while we cut them into beams : the first man who did

so may have felt the price keenly and the bleeding trees in Virgil and Spenser may be far off echoes of that primeval sense of impiety. The stars lost their divinity as astronomy developed, and the dying God has no place in chemical agriculture. To many no doubt this process is simply the gradual discovery that the real world is different from what we expected and the old opposition to Galileo or to body snatchers is simply, obscurantism. The great minds know very well that the object so treated is an artificial abstraction, that something of its reality has been lost.

"From this point of view the conquest of Nature appears in a new light. We reduce things to mere nature *in order that* we may conquer them. We are always conquering Nature, because Nature is the name for what we have to some extent conquered. The price of conquest is to treat a thing as mere nature" (Lewis : 1946 ; 48-49).

Now this directly brings us to the putative Lag between Man's progress in the non-human and human fields. For if we—whatever this "we" may mean—if we have to adjust to man's conquest of Nature (of which Scientism in human studies is a necessary part) it can only mean that man himself is to be reduced to Nature. In other words, the end-result of this process of conquering Nature is Nature's conquest of man. This turning of the tables is, however, not the most important point. It is far more important to realize that once the concept of control or conquest is applied to the controller himself, it loses its usual meaning. At this stage the exploiter and the exploited are the same. It is not primarily a question of such a situation being good or bad : reducing man to mere "nature", the ability to explain his actions and history in terms of natural causes may be a unique achievement, or a fall from human dignity. But we should be clear about its implication. "It is", to quote Professor Lewis again, "the Magician's bargain : give up your soul, get power in return. But once our souls, that is ourselves, have been given up, the power thus conferred will not belong to us. We shall in fact be the slaves and puppets of that to which we have given our souls. It is in Man's power to treat himself as a mere 'natural object' and his own judgement of value as raw material for scientific manipulation to alter at will. The objection to his doing so does not lie in the fact that this point of view (like one's first day in a dissecting room) is painful and shocking till we grow used to it. The pain and the shock are at most a warning and a symptom. The real objection is that if a man chooses to treat himself as a raw material, raw material he will be : not raw material to be manipulated, as he fondly imagined, by himself, but by mere appetite, that is, mere Nature, in the person of his dehumanized conditioners". (Lewis : 1946 ; 50).

So far the implications, though odd and at variance with our aims, are atleast intelligible. But this is because we are still surreptitiously clinging to the Man-Nature distinction. When we analyse this idea from the Sociological point of view, and that is the level proper to it—we would steadily lose our grip over its meaning. When man is reduced to nature, all human relationship become relation-

ships between two or more natural objects. This clear implication of scientific thinking on man and society is usually obscured from view by a number of different devices, among them being the legend that whatever the ultimate status of human relationships may be, the student of man *qua* scientist must view them as natural and objective—as if they were events in nature. He has to reckon with human values and norms, but again as if they were natural facts.

What we, however, fail to notice is that the end to which the natural science of man is to lead, viz., man's mastery of his own history, is a notion that does not belong to the family of concepts in terms of which the man-nature relationship is analysed. If a human being can treat another as merely an object in nature, this power, *ipso facto*, cancels their fellowship: and cancels it in a fundamental, total way—perhaps both have ceased to be men: In any case, if the former is still called 'Man', the latter can, by no means, claim human status. Indeed in this case one must talk of nature and supernature instead of man and fellowman. So long as this power is, for whatever reason, confined to some, we cannot properly speak of man's self-mastery except by an unjustifiable use of the abstraction "man". But when it is generalized so that each "man" treats the other reciprocally as "nature"—and this must be the consequence if the positivist programme for the study of man succeeds—then, we have abolished man altogether. Indeed, we then refer to a state of affairs wholly unintelligible.

It seems to me that outside a strictly hierarchial context we cannot give any meaning to reflexive and self-referring concepts and relationships. But whether or not this is generally valid, our analysis should show *that the concept of man's self-mastery can have no meaning in a non-hierarchial, secular context*. Indeed, it is a strange irony that this idea should be emphasised specially in a humanistic *weltanschauung*, with which it is wholly incompatible.

When we transfer the idea of man's mastery over nature to the human-social realm, we usually fail to notice that man-nature and man-man relationships belong to two different orders: essentially one is asymmetrical and implicitly hierarchial, the other is symmetrical. The transition is facilitated perhaps by the fact that in the course of time man-nature relationship itself progressively loses its roots in a hierarchial cosmology. The modern age betokens a fundamental subversion of the Great Chain of Being.

The fallacy of the Bifurcation of Nature as Whitehead (1920) calls it. (or the dominance of non-participating consciousness and the rise of idolatrous thinking in modern times as Barfield (1957) analyses it) is directly the result of this subversion. I may be mistaken, but I cannot help feeling that the problem of harmonising science and the humanities cannot be solved either on the basis of the superiority of sciences over the humanities or on that of their parity: neither of the two positions is tenable. It is not a question of correcting the evils or the excesses of specialization or overspecialization. Science and the Humanities cannot be studied as

parallel courses. They often come in conflict with each other. No fundamental solution of these can be found except in a sound theory of the Unity and hierarchy of knowledge—and unity, let it be said once for all, is not to be found in interdependence or coordination, but only in First Principles. Unless the physicist and the anthropologist have a common world-view, the “two cultures” will remain.

In modern times Comte's attempt at a unified culture is well known. It is, however, a hierarchy which is based precisely on postulates that eliminate the idea of ‘*hieros*’, the sacred, and thus make any genuine hierarchy of knowledge impossible. His law of the three stages provides no sound foundation for Unity: he talks of an early stage when man viewed nature as if it were human and ends with a stage when man must think *as if* he were Nature!

Though the modern age has been extremely rich in divisions and sub-divisions of knowledge, specialization in various fields has been carried to an almost incredible extreme, yet and also because of it, the problem of the wholeness of our fragmented culture and us from the very outset. In fact, it is a typically modern problem, hence of the unity and hierarchy of knowledge has been worrying for only with the beginning of the modern age there arises a “non-mythical” counter-world-view. There were different archaic cultures but no fundamental differences between their world-views such as exist today between the archaic and the modern. It has arisen, in what I should call the most typical form, in the field of modern philosophy, where the question of its relation with modern science became especially acute at the beginning of this century. For this the reason was not merely over-specialization and consequent lack of communication among different sections of the elite: it was also the fact that Modern Science was increasingly impinging on the domain of philosophy and metaphysics and invalidating or casting grave doubts on both its methods and results. As every one knows matters came to such a pass that a rising school of philosophers headed separately by the Viennese circle, Russell and Wittgenstein declared that philosophy had no subject-matter and no propositions of its own. It could only clarify scientific thought. Philosophy was equated with logic and the unity of scientific knowledge was sought in an ideal language with atomic sentences (or, protocol sentences) and a universal formal symbolism. The idea of a universal logical language in which all knowledge could be expressed and thus unified is very old, and in its modern form goes back at least to Leibniz.

The story of the failure of both the Russell and Wittgenstein and the Carnap and Morris forms of unification of knowledge through ideal language and empiricism is well known. The rock, so to say, on which this whole line of thought floundered was the concept of the Ineffable to which it led from various directions but which the school was committed to reject. In other words, the ideal language or the logical symbolism forming the basis of unified knowledge was supposed to involve no metaphysics and ontology and this dogma became increasingly difficult to maintain.

A closely connected difficulty was the emptiness of symbolic Logic. For instance, the theory of relations accepted by the symbolic logicians could not be applied to real human relations without surreptitiously introducing semantical notions. We have no method of deciding whether the relationships of marriage and love imply symmetrical or asymmetrical, transitive or intransitive relations without presupposing a certain cultural system and independently determining the meaning of the terms. On the other hand, the claim of Symbolic Logic was to give us purely Syntactical Laws, which, being Universal, will provide the ground for the unity of knowledge.

One major reaction to this School came, as we all know, from within: in the form of the rise of the later Wittgensteinian and Oxford Linguistic Philosophies. There is much in this school that is plainly fissiparous in tendency ("Every word has its own logic") and one can insist that it would be odd to search in it for any basis of the unity of knowledge. But even so, there are certain counter-tendencies. One is the pragmatic bias, the other is the insistence on leaving things as they are. This school insists that philosophy can solve no problems, it can only dissolve pseudo-problems. Genuine problems are resolved by action. The forms of action (life) philosophy takes as given. In this it is fundamentally correct: for unless the category of action is brought in, there does not seem to be any way of relating knowledge and Reality, which is necessary because all knowledge, in the ordinary sense, is "knowledge of". But the way in which this category is used in Neo Wittgensteinian philosophy leads to a position quite similar to that of the Zen and this again the linguistic philosophers are committed to reject.¹

This brings us directly to the other solution, namely, the one in which the basis of the unity of knowledge is found in the unity of theory and practice. According to this the principle for the unity or unification of knowledge cannot be found in the intellectual sphere but only in the sphere of practice. It is the common purpose for which all types of knowledge and thinking are to be utilized that brings unity in the various branches of knowledge. Schisms, lack of communication and narrowness of outlook and other well-known evils of over-specialization arise when knowledge is divorced from the common purpose or purposes and the scholar *qua* scholar assumes a neutral position uncommitted to any course of action—this itself being the result of the separation of theory and practice for, otherwise one could not abstract the scholar from the man.

We can conveniently distinguish between two schools here: The Marxist and the Existentialist. The Marxist believes in the imminence of a fundamental change in the human world and regards all knowledge as an instrument of this change. The Marxian School also claims to have discovered laws of Human History which are as objective and rigorous as those of Physical World: There are also certain basic laws or principles. (Dialectics; The Unity of Opposites, etc.) which are the common foundation of

both, the Laws of History and the Laws of Nature. However, as social science develops along Marxist lines there will be a single system of laws for both the human and the natural world.

The existentialist variant (except Kierkegaard) shares with Marxism the notion of commitment but it differs sharply in rejecting the notion of objective universal laws of human history as also the possibility of a common normative system or practice. While the Marxist derives his master idea of commitment from the existence of a Universal social purpose, the existentialist deduces the same idea from the intrinsic freedom of man. Choice accordingly becomes the basic category of human action and sticking to one's choice ("Choose yourself", in place of the Socratic "Know Thyself"). Sincerity now becomes the formula for unifying the diverse theoretical and practical pursuits of men. The Kierkegaardian School of "Existentialism" on the other hand has a firm belief in a Christian tradition but it is emphatic that it cannot be known and verified objectively. Hence the insistence on personal commitment to truth. The category of choice is still there but it is now related to a tradition. The most important and original of Kierkegaardian category which unites theory and practice (reality) and thus indirectly provides the foundation for the unity of knowledge, is that of "Contemporaneity". Without trying to go into the complexity and depth of this concept, we may explain it briefly as meaning the endeavour to view Eternity under the form of Time; more concretely as referring to day to day life in all possible detail: acting as if the one's effort to live out one's beliefs and ideals in one's test conditions required by one's beliefs and ideals were immediately (and not only remotely) real. This is particularly enjoined in respect of one's tradition, for ultimately it is our contemporaneity with a doctrine which makes it real and guarantees its continued life. At the same time it is here that contemporaneousness is most difficult, for a tradition is *eo ipso* non-contemporary. In other words, it is an effort to go back to the "Primitive" culture world. For the so-called primitive man does not experience Tradition as tradition; with him it is a perpetually present, living reality; not the past in the present, but the timeless that is the inalienable dimension of human life.

The existentialists are not directly concerned with the question of the unity and hierarchy of knowledge and the wholeness of culture: the Kierkegaardian existentialism is preoccupied with personal salvation and monastic form of Christianity while the Non-Kierkegaardian branch is concerned with the problem of the individuals' integration. But they do recognize the problem of specialized and fragmented knowledge and hence of schismatic cultures: in fact in the thinking of Kierkegaard we find a most powerful critique of specialized and detailed knowledge and the "objective", universal, abstract science. Equally powerful is his critique of false synthesis such as that of Hegel. At the same time his insistence that there can be no existential system, leads into a direction that is not quite congenial to the formal construc-

tion of a theory of the unity and the hierarchy of sciences. Nevertheless, the philosophic theory of existentialism presupposes the unity and hierarchy of human knowledge, in so far as it is not simply a philosophy of despair.

It seems clear to me that there can be no mediation between the Natural and the human Sciences, between scientific and Philosophical Anthropology unless the category "action" (or Natural process), is made central to both. We have already seen that human action cannot be understood in terms of Nature. And hence Natural process cannot be the Common Central Category. We may now analyse the category action (and "practice") to see if this could provide a sound basis for the unity of knowledge.

A most profound analysis of Action is that of Hannah Arendt (1958). She begins by distinguishing three aspects of human living: Labour, Work and Action. Each is conceptually quite distinct and the distinction is of great importance; but all the three are integrally bound up with each other.

"Labour" is the metabolism between man and nature into which the human creature is involved in order to survive. Work consists in making things; it involves operating upon Nature (even its conquest), and its result is the creation of the specifically human world of objects. "To act, in its most general sense, means to take an initiative, to begin, to set something into motion". The category proper to action is "decision".

In other words, human action is the essential manifestation of human freedom. However, man has to begin, to decide to set something into motion, in a world which is ready-made, which is only *partly* human and man-made and in which beginnings and decisions are always being made, (that is, other human beings are always acting). And hence there necessarily arises an incommensurability (at times, even contradictions) between man's intentions and the consequences of his actions.

It follows that action proper falls outside the category of means-end. So long, therefore, as our framework does not include a non-temporal or transcendental dimension, action or practice will itself stand in need of a principle of unity and integration, and hence cannot unify and integrate knowledge, unless it is unwittingly assimilated to the category of work which alone properly falls in the means-end scheme. But to regard work (which is the result of making) as the end of knowledge is to move in a vicious circle, for the pattern to which something is to be made must come from theory.

The alternative which remains is to regard knowledge as autotelic. Knowledge for the sake of knowledge, truth for its own sake, art for art's sake: Satisfaction of curiosity as the aim of knowledge: objective, impersonal, pure science unconcerned with utility and application—these are, I think, quite familiar notions and very widely accepted ideals of the pursuit of knowledge. In fact, even when a thinker recognizes the necessity of finding an aim, a purpose for knowledge, he likes to avoid a direct attack on the autotelic theory of knowledge which lies at the root of the ideal of "pure"

value-neutral science,—perhaps because he is too much afraid of falling into the communistic pragmatic theory of knowledge.

Nevertheless, I do not think the autotelic view of knowledge makes sense. If by saying that knowledge is its own end we mean it is pursued for a certain kind of satisfaction or joy which it alone can give, it is not knowledge which is the end but a certain type of pleasure, and this, strictly speaking, contradicts the slogan that knowledge is its own end. But in so far as we adhere to its meaning it lands us in subjectivity and caprice.

On the other hand, to say that an activity has no end except itself is to say that it has no end, that it is futile. But the futility of knowledge is, socially, wholly untrue; quite apart from it, it does look rather odd to say that something wholly futile should be pursued. However, the strongest argument is that any pursuit which has no purpose outside itself becomes self-stultifying: in fact, worse: it turns back upon itself and thus becomes suicidal.

As we said before, action has to be the end of knowledge of both science and art. But again we have seen that action cannot be grasped in the temporal scheme of means and ends. In order to be saved from futility, it has to have a transmundane aim. If our view of human action is correct, the notion of moral and responsible action cannot be made meaningful except on the supposition of a supratemporal absolute *telos* (and hence, strictly no end at all but only analogically so-called). It is in this context that the ideal of "pure" science and "pure" art whose practitioners are responsible only to their science or art can have a meaning; for then the 'purity' will symbolise the incommensurability between Man's temporal existence and his eternal destiny which defines the uniqueness of the human condition.

It is not the personal involvement of Man as the knower in science, the humanities and the arts, however great or central it be, that alone could adequately provide the foundation of the unity and the hierarchy of knowledge and the wholeness of culture: for involvement itself stands in need of integration: all human involvement, all specifically personal elements get their meaning in terms of responsibility. And that presupposes something given: responsibility is *assumed*, taken up. It is, of course, true that all responsibility originates in one's own action. (That is, if we go sufficiently far back beyond the human life span.) But Man is not the ground of his own existence. As Miss Arendt most aptly puts it, each one of us is the hero of his life-story, but not its author. Delete this faith in his transtemporal ground and there is no human freedom; man is then left a completely determined organism: a patient of History, whatever his pretensions about "making" it.² Man is a creature. The realization of his creatureliness is absolutely fundamental to Man's self-knowledge and constitutes the basic difference between traditional anthropology and modern philosophical anthropologies.

The unity of knowledge and hence the wholeness of culture amidst a variety of sub-cultures or part-cultures is founded upon the absolute "*telos*" of human life given and understood in terms

of a Primordial Tradition. It is from this that a hierarchy of sciences and arts is derived and a common effective culture arises for all, bridging the gap between scholars and experts in diverse fields. Again, it is only in terms of a primordial tradition that the gulf between the expert and the common public is bridged through Myth and Folklore.³ Let me conclude in the following words of Rene Guenon which sum up the entire position :

"In every traditional civilization, every human activity of whatever kind is always regarded as derived essentially from principles. This is conspicuously true for the sciences and it is no less true for the arts and the crafts, and there is in addition a close connection between them, all, for according to a formula postulated as a fundamental axiom by the builders of the Middle Ages, *Ars sine Scientia nihil* : the science in question is of course, traditional science and certainly not modern science, the application of which can give birth to nothing except modern industry. By this attachment to principles human activity could be said to be as it were "transformed" and, instead of being limited to what it is in itself, namely a mere external manifestation (and the profane point of view consists in this and nothing else) : it is integrated with the tradition, and constitutes for those who carry it out an effective means of participation in tradition, and this is as much as to say that it takes on a truly "sacred" and "ritual" character. That is why it can be said that in any such civilization, every occupation is a "priesthood" : but in order to avoid conferring on this last word a more or less unwarrantable extension of meaning, if not a wholly false one, it must be made clear that priesthood is not priesthood unless it possesses something that has been preserved in the sacerdotal functions alone, ever since the time when the previously non-existent distinction between the sacred and the profane arose" (1953 : 71-72).

NOTES

1. It may strike some of us as odd that we should count logical positivism and even the later linguistic philosophy among major attempts at unity of knowledge. Its anti-metaphysical and anti-systematic tendencies should be enough to discourage any such interpretation (cf. Pieper : 1957 ; 89. In behalf of our position I would like to say that these tendencies do not necessarily rule out our interpretation. The radical reductionism of the School is a firm ground for our interpretation. The Radical Physicalism of Carnap is another clear sign of the School's inner striving for Unity of knowledge.
2. It is instructive to note how Vico defines the difference between the Natural and the social-human. "We can prove geometry because we make it : to prove the physical we would have to make it". According to Vico Nature is ultimately beyond our understanding for it is not made by Man : history is made by Man, so it can be understood by Man. It is this false belief in man's creation of history that is responsible for the growth of modern Man's gigantic *hybris* : the utopia of self-directed humanity. (Gordon Childe expresses a whole climate of thought when he calls his book on prehistory "Man Makes Himself"). On the other hand, the belief in

knowing by making (as against knowing by being) led to the ideal of 'Universal science' by means of which Man can *make* and destroy his entire terrestrial environment. It is an ideal whose progressive realization means, as we have already seen, the elimination of human freedom. The roots of the modern schism and *malaise* lie, as Miss Arendt (1958) shows in her uncommonly profound analysis, in the hierarchical reversal of *vita contemplativa* and *vita activa*—and worse, in the successive reversals within the *vita activa* itself: Man the actor replaced by Man the Maker and the latter finally supplanted by *animal laborans*. These reversals followed from the making theory of knowledge—of which the pragmatic and the Neo-Wittgensteinian and the Rylean Philosophies are diverse aspects. Wittgenstein's attitude: 'Consider language, how it works'—(Note that he does not say 'Consider language, how it grows') may well be seen as Platonic wonder reflected through the *homo faber*.

It will be seen that Professor Michael Polanyi's concept of Personal knowledge cannot be a solution in so far as it ultimately accepts the *homo faber* (Man, the tool maker) tradition of knowledge. (Incidentally, it is a tradition in whose propagation anthropology played an important part). His revised conception of science may be in accordance with the true nature of scientific knowledge but it certainly stops short of rejecting the making theory of knowledge: It is for this reason that the analogy he draws from crystallography is fundamentally misconceived. The system of appraisals for judging a crystal derived from the proposition that there can be only 230 basic shapes cannot be the model for, or analogous to, human normative systems; for, there is this difference between the two: Firstly: about the crystallographic system of appraisals, Professor Polanyi says that "our confidence in them increases with the number of instances in which it has been found distinctly opposite to experience" (1961 pp. 26-34). This is not true of a social normative system (unless we have already construed it on a natural science model), for here there is no question of our confidence in it increasing or remaining unshaken with positive or negative instances. We have faith in a normative system and act in accordance with it, but always in fear trembling for we can never be sure of this accord. Unlike the situation in crystallography, the normative system is not only a basis of judgements of action and quality; it enters into the very formation of our actions and experience and governs them inwardly. For unlike crystals, human action and experience are not something ready made, finished products to be judged according to a set standard. So to view them is the result of confusing action with work which follows from the making theory of knowledge. A crystal is what it is: among several possibilities of shape *any* one may be realized in it. Not so with human action: it is of the greatest concern to Man which of the numerous possibilities he realises, and which he fails or does not choose to realize.

Secondly: it may be correct to say that the proposition there are 230 geometrically different types of atomic lattices would remain true even if no specimen of any crystals could ever be observed in fact. But it is mistaken to suppose that this is analogous to saying that a doctrine is true even if nobody realizes it or that a system of norms remains valid irrespective of how many people follow it. For in the case of the geometrical proposition about 230 types of lattices we imply its ontological neutrality

or nonsignificance. This is not true of Normative systems or doctrines for they would lose all meaning if they did not have ontological significance. (When the tradition denies their ontologic significance that is in the context of *Para Vidya*, from which standpoint all effable knowledge is vain).

Perhaps it is too difficult for us to free ourselves from the physical experimental and mathematical-postulational Models. We seek certainty, objectivity and Universality in the sphere of action, but at the same time we insist on being empirical. The two simply do not go together. Human action is defined by its incalculability.

3. Myth and Folklore are not meant here in the sense usually given to them by modern anthropologists. The relations between the sub-cultures and the main culture, or that between Folk Culture and City Culture—the so called Little and the great Traditions—cannot be properly understood on the basis of the Modern anthropologists' view of Myth and folklore. Neither the *ad hoc* postulate of a continuum nor the self-contradictory notion of the creativity of the Little Traditions (and of the process of parochialization) can provide any theoretical basis for the wholeness of culture. The proper approach to folk-culture and its relation to Tradition is propounded in the following passage from Ananda K. Coomaraswamy :

"When the bourgeoisie culture of the Universities has thus declined to the levels of purely empirical and factual information, then it is precisely and only in the superstitions of the peasantry, wherever these have been strong enough to resist the subversive efforts of the educators, that there survives a genuinely human and often, indeed a superhuman wisdom, however unconscious, and however fragmentary and naive may be the form in which it is expressed....."

"As has been justly remarked by M. Rene Guenon "The very conception of "folklore" as commonly understood rests on a fundamentally false hypothesis, the supposition, namely, that there really are such things, as 'popular creations' or spontaneous inventions of the masses; and the connection of this point of view with the democratic prejudice is obvious.... The folk has thus preserved, without understanding, the remains of old traditions that go back sometimes to an indeterminably distant past, to which we can only refer as 'prehistoric' "what has really been preserved in folk and fairy tales and in popular peasant art is, then, by no means a body of merely childish or entertaining fables or of crude decorative art but a series of what are really esoteric doctrines and symbols of anything but popular invention. One may say that it is in this way, when an intellectual decadence has taken place in higher circles, that this doctrinal material is preserved from one epoch to another, affording a glimmer of light in what may be called the dark night of the intellect ; the folk memory serving the purpose of a sort of ark, in which the wisdom of a former age is carried over (*tiryate*) the period of the dissolution of cultures that takes place at the close of a cycle" (1956 ; 138-139).

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THE PLACE OF THEORY IN SOCIAL SCIENCE

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1. The place of theory in social science—in fact in any science—can hardly ever be denied. If astro-physics is to be distinguished from stargazing, history (and ethnography) from chronicling, and statistical analysis from mere data collection, then the need for theory is obvious. What may be in doubt, therefore, is the utility of simplified generalisations based on certain hypothetical assumptions concerning social life or human nature. In other words this is the familiar “battle of methods” which raged in Germany at the close of the 19th century. What probably may be regarded as a valid problem today is the usefulness and specific function of *a priori* reasoning and *a posteriori* analysis, in short the choice (if there is any choice) between deductive method and empirical research. Much will depend on what is meant by ‘theory’ for in one sense both the inductive (i.e. statistical, historical and descriptive) and deductive (i.e. abstract) methods use ‘theory’ so that if we apply the one or the other method, we cannot escape the use of theory altogether. By ‘theory’ we can mean a logically coherent, self-contained system the parts of which are neatly joined together in a cause and effect relationship so that the whole gives the idea of a complete structure. Such a system is over-arching in as much as it comprehends or tries to explain all the facets of social reality in terms of a few simple causes. We have in Marxism such a theory explaining in one sweep the character of socio-political framework, family institutions, mores and values peculiar to a social set-up, and economic organisation in terms of movement of matter, buttressed by the dynamo of class war, bringing about changes in economic order and consequential changes in the social and institutional super-structure. Such a theory is now suspect viewing the complexity of the social phenomena, the multiplicity of causes to which these may be due, the various combinations of the different phases of the phenomena and of the determining factors, and the inadequacy of any one or even a combination of a few factors to explain the reality as a whole.

2. A social situation may be the result of a multiple set of causes, social or biological. The social scientist tries to comprehend social reality in so far as it is determined (or conditioned) by the social factors. The biological factors often exert a tremendous influence on human life especially in earlier, i.e. technologically less developed, societies. This influence may be determinable in which case it is a datum; or it may be indeterminable. In the latter case the social organization has to be flexible enough to absorb the shocks emanating from the exogenous sources. We may take, for example, the most important social problem with which scientists in all backward countries are confronted—the problem of poverty and social progress. Progress may be due to biological

(i.e. non-human) factors such as good monsoon, presence of fertile land, growth of population etc. It is often the result of human factors—improved technology, better social and cultural organisation, stable political system, and so on and so forth. A social scientist studying social progress has to study different patterns and different aspects of this progress and try to understand the influences working upon it. He has to isolate the main variables in the situation, identify the independent from the dependent variables, determine their causal relationship with each other, and distinguish clearly the process of their interaction. The larger the number of these variables, the greater the complexity of the situation, the greater the need for a "theory" to comprehend the interaction of the multiple forces, and the less likelihood of any one particular theory being able to satisfactorily explain it. This is the difficulty we are faced with. The Marxian system has a great attraction and appeal to minds in search of an over-arching theory—or social philosophy—which may explain the phenomena we are dealing with. Such an appeal arises from human desire for completeness, from our appreciation of symmetry. But the complexity of the problem, which is brought to light the further we probe into it, does not permit us to rely on any one theory. The readers can substitute for Marxism any other system they like. The main conclusions will, nevertheless, hold good.

3. One is familiar with the phrase, an ounce of fact is worth more than a ton of theory; and the equally emphatic assertion that facts by themselves (i.e. unaided by theory) can never prove or disprove anything. Both of these statements are exaggerations; both of them, as is usually the case, contain an element of truth. Abstract generalisation without relevance to facts may be an interesting pastime. It may satisfy the craving for logical deduction from hypothetical assumptions. But the thinking is sterile—may be even jejune naïve—unless it is related to facts of actual life. It is this type of abstract reasoning, with its hazardous (because they are unrelated to facts) conclusions, that makes it imperative that we discuss the place of theory in social science. To be sure, a structure of thought can be built on certain arbitrary assumptions and it may be pursued for its own sake—for the sake of pleasure derived from logical consistency and deduction. But the basic assumptions have to be as true to real life as possible, otherwise the superstructure will be unrealistic. The limits of applicability of such deductions have to be fully and clearly recognised.

4. The urge for simplification is ingrained in human nature (see how we jump from the particular to the general!). It is probably due to our desire to distil from the jumble of heterogeneous data certain dependable uniformities. Life in its myriad phases is complex. It manifests itself in many ways. The heterogeneity of social phenomena does not, however, deter us from taking up certain phases for analysis and abstraction. Meaningful conclusions can be reached only at a certain level of abstraction—from the complex factors at work. The process of abstraction is thus a necessary concomitant of generalization. Such generalization will be

based on uniformity in human behaviour. The uniformity of behaviour may be the result of a strong set of causes affecting human action. They should be strong positively in the sense that they affect all the phases of human action either directly or derivatively. They should be also strong enough to negative the influence of counter-acting forces. In so far as such motivating forces can be discerned, a logical super-structure based on deduction from these can be built. The trouble is that human life and activity are too complex to be able to be comprehended in terms of a few variables and their interaction and causal relationships are yet not known to us fully.

5. Even in such a science as economics which claims a greater degree of "exactness" i.e. "determinacy" in its conclusions, the relationships between main economic variables—population and income, and saving, rate of capital formation and rate of increase of employment and output—are not fully known. We find combinations of high rate of population growth and high per capita income, low rate of population growth and low per capita income, high rate of growth of population and low per capita income, and low rate of growth of population and high per capita income. The relationship between population and income, moreover, changes in the same country over a period of time. The same thing holds good of relationship between income and saving. On the whole, as income increases, expenditure forms a diminishing portion of total income;—in other words savings ratio goes up. However, we may come across societies with high level of (per capita) income and low rate of saving, and comparatively lower level of average (per capita) income and higher rate of saving. The relationship between rate of increase of capital formation and rate of increase of employment and output depends on the technique employed in production. In general, as economy advances, more capital-intensive technology is used—the capital output ratio rises. As more capital is employed per worker, capital coefficient increases and the same amount of capital now gives employment to a smaller number of persons. The capital coefficient of production can be varied through substitution and rigid coefficients are an exception rather than the rule. The upshot of all this is that uniform relationships between these variables over time have not been established with the result that however much we may need it, a theory of growth even in purely economic terms has not yet been formulated. When we reflect that social growth is many-sided and economic growth is only a part of it, we will realise how insignificant our results are in explaining the situation.

6. There is another sense in which we use the word 'theory'—in the sense of a hypothesis employed as a tool of analysis. In order to understand a social phenomenon we formulate a hypothesis—we take a few basic assumptions drawn from experience and valid to our theme and make a theoretical framework for the analysis of our data. We may even posit a number of tentative hypotheses in the form of expected results from anticipated or derived causes in the absence of any counter-acting forces. We interpose this framework on the phenomenon we study and see how far the facts of the situation fit in with this—or, in other words, to what extent our

theoretical framework can explain these. To the extent it can, it is both logically and empirically valid. In so far as it cannot, its validity is in question. The hypothesis so framed must be testable by facts. The more it comes true in different circumstances, the more reliable it becomes as an explanation of facts. It is in this sense, and this sense alone, that we have to understand the usefulness of theory, and not in the sense of a social philosophy or an over-arching theory, however much our fascination for it may be. An over-arching social theory is outside the realm of social science. It comes in the domain of philosophy, of pure deduction. It can be derived only at the highest level of abstraction. Its validity to facts of life will be very limited. The method of social sciences is of trial and error, of framing hypothesis, of making experiment, and on the basis of it of accepting, modifying or rejecting the hypothesis. Here theory serves only as a tool of analysis, only as a frame in which we try provisionally to fit in the data. This frame is not given. There is no finality attached to our conclusions. Even in the case of most general social "laws", the possibility of variation remains. The method of social sciences is frankly experimental. This is not to preach crude empiricism. The place of deductive reasoning is fully recognised. In fact the higher the level of analysis, the greater the use of deductive method. But deductive logic alone, it may be understood, can never explain social reality.

7. Much of the controversy in social sciences will vanish if we appreciate the true role of deductive and inductive methods. Let me caution at once against the excessive enthusiasm for empirical research shown by many economists, sociologists and anthropologists. A lot of literature is being poured every day in the market (thanks to the printing press) whose significance is very limited and transient. There is practically little or no analysis at all in it. It is mostly descriptive and at best crudely analytical. This may be due to a misconceived distrust for theory. Often it is the result of lack of aptitude and theoretical training of those in charge of its authorship. This type of data collection is of itself barren. The material might be used by some other social scientist for testing his generalisations. In many cases this also is not possible for the information is incomplete, partial and has not been collected with an eye on proving or disproving—in short testing—any particular hypothesis in view. For mere data collection without the frame of reference of a hypothesis is meaningless. It will lead to no result. In truth did Werner Sombart say: "Facts are like beads; they require a string to hold them together.... No theory—no history." (Quoted by T. S. Ashton. "The Treatment of Capitalism by Historians", in F. A. Hayek (ed.), *Capitalism and the Historians*, London, 1954, p. 57). And again: "Facts do not organise themselves into concepts and theories just by being looked at. Indeed except within the framework of concepts and theories, there are no scientific facts but chaos. There is an inescapable *a priori* element in all scientific work. Questions must be asked before answers can be given. The questions are an expression of our interest in the world, they are at bottom valuations. Valuations are thus necessarily involved already at the stage when we observe

facts and carry on theoretical analysis, and not only at the stage when we draw political inference from facts and valuations" Gunnar Myrdal, *The Political Element in the Development of Economic Theory*, London, 1953, p. vii).

8. Any scientific study presupposes two things : first, a vision or perspective, and, second, a theory. The social scientist has to choose from the complex of phenomena some which, according to him, represent the basic features of society. No doubt the task is difficult since these phenomena are for the most part inter-related, but the choice has to be made and a price paid for it. An observer who begins by seeing everything will in all probability end up by seeing nothing. He will, in other words, not be able to distinguish the wood from the trees. The choice of phenomena to be studied will be determined by the scientist's own view of social reality—what he thinks to be important or unimportant—and by the efficacy of the tools with which he is working. The former is governed partly by the hypothesis he has in view which he wants to test, substantiate or reject. If the phenomena do not lend themselves to theoretical treatment (random growth elements, for example), they will have to be abandoned, however important they may otherwise be. Having sorted out and picked up his "facts" for study, he has to apply the tools of the science and analyse their "functional" relationships. If the tools are crude and do not help in such analysis, they may have to be discarded and new tools forged instead. Otherwise they may be remodelled, refined and perfected in the course of study. However sharp the tools of analysis and however abundant the material, unless we have *some* hypothesis on the basis of which to bring together these facts, the effort may be fruitless, although bad tools and inadequate data may, in their turn, impair the validity of the hypothesis itself. While empty theorising without reference to facts is useless, reference to "facts" without the bestring of hypothesis is equally meaningless. Here as one writer pertinently remarked, in a somewhat different connection, we may be telling stories, not making theory. While the classical literature in economics and sociology suffered from oversimplification and abstraction at the cost of reality, much of the modern research in the two fields suffers from the defects arising from the other extreme. In some respects it is a reaction to the past but while the classical literature gave easily workable, though somewhat crude, models and in a way helped us to understand the phenomena and improve our hypotheses, modern empirical research, for the most part, is devoid of this content and is, therefore, singularly insipid and dull.

9. This tendency in social sciences to collect a mass of data without any attempt at intelligent and meaningful analysis should be checked or, at any rate, discouraged. The dislike for theory in the sense of an over-arching, comprehensive social philosophy should not resign us to mere descriptive approach and lack of application of theory altogether. In fact what we need is more of theory rather than less of it. We need theory in the sense of general laws—uniformities—derived from data covering long periods of time and space. We need theory in the sense of hypotheses built

on expected behaviour of main variables in a social situation. We need theory which may, as far as it can, explain the social phenomena and help us in formulating our policy measures. We need in the present situation more of analysis and more of deduction. It is only a mind fully equipped with tools of theory that can sift the useful (*i.e.* relevant) from the useless (*i.e.* irrelevant) data, analyse them, derive results, verify them and formulate general "laws" or tendencies. The complexity of the situation, nowhere manifest more than in the study of culture (the exclusive domain of anthropology), should not discourage us from analysing the facts and arriving at general conclusions. (I have a feeling that anthropologists, too, are a little over-cautious in their approach). It should only impel us to sharpen our tools further so that the appellation "those empty boxes" may not be applicable to the apparatus of our theory.

TAGORE'S *CHANDALIKA* :
A Psycho-Anthropological Analysis

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Tagore's treatment of magic and religion in *Chandalika*¹ is not accidental; nor is it a sheer dramatized or artistically improved version of the supernatural phase of the old Buddhist legend to which the plot of the play owes its origin. We, on the contrary, discover in it such anthropological implications as bear, to a certain degree, a striking resemblance to the theory of magic formulated by Sir James Frazer in his monumental work, *The Golden Bough*. We further find that the playwright's basic approach to magic and religion is not merely engendered by imaginative subtleties, but it is vitally founded on modern psychological researches. Our endeavour here will be to make a searching, psycho-anthropological analysis of the play, and thereby to prove, that Tagore has an evolutionary outlook in the study of magic and its relation to religion, and that *Chandalika* is a scientific study in magic and religion as a part of the evolutionary process. Not that a religious myth is manipulated here like a work of science to serve the creative ends of art, but that the dramatist, in his attempt at attributing a meaning to the old legend, has come on the cultural history of humanity.

The newly-awakened Prakriti, in her eagerness to lay siege to Ananda, her redeemer, the monk, bids her mother to employ the art of magic to bring the Bhikshu to her door. Conscious of the 'great wrong', the magical shaft, to be directed against the disciple of the Buddha, the man of religion, Prakriti's mother makes a statement through which Tagore voices the fundamental distinction between magic and religion.

"They draw men by the strength of their virtue. We drag them, with spells, as beasts are dragged in a noose. We only churn up the mud" (1953 : 144). Tagore here remarkably points out that magic and religion are not akin to each other. A sharp line of distinction between the two is explicitly drawn. Religion **draws**; magic **drags**. Drawing and dragging suggest two different avenues of approach. The former stands for the method of moral or spiritual appeal, whereas the latter signifies the way of coercion. Prof. Edwards puts forward a similar view:

"The *method* of the genuine prayer is essentially distinct from that of the spell; it is the method of appeal; of moral suasion, it is therefore marked by humility and reverence, whereas the spell is magical, uses the method of command or constraint, and is marked by a spirit of self-confidence and self-sufficiency" (Edwards 1924 : 121ff.).

Sir James Frazer too lays stress on the element of coercion in magic. "... it constrains or coerces instead of conciliating or propitiating them as religion would do" (1957 : 67).

After affirming that coercion is the cardinal feature of magic, Tagore proceeds on to associate it with "mud", whereas religious attitude is identified with "strength of virtue". The "mud-churning" is symbolical of a selfish pursuit on a muddy, mundane plane. It is backed by an egoistic act of will rooted in the temporal rhythm of power. The "strength of virtue", on the contrary, implies the strength of the soul, the power of spirit.² Magic thus, according to Tagore, signifies the temporal power, religion the power of spirit. When the human mind, in quest of temporal power, responds to the call of the appetitive self within, it leans towards magic; but when it moves on a plane of virtue or moral exaltation, it awakes to religious experience. Tagore thus clearly distinguishes the mud-churning attitude of the mind which gives rise to magic from the spiritual one that calls forth religion. These distinctive features of religion and magic clearly suggest that the two are fundamentally different attitudes of mind. Frazer also holds that there is "a fundamental distinction and even opposition of principle between magic and religion" (1911 : XVI). Magic for Tagore, is an attitude of identification with the *dragging* ego in man, but religion receives its pull not from mere adjustments of the heart but from *virtue*, the moral solidarity of the self. Religious experience is characterised by ascension of the spirit rather than attainment of power.

With due recognition of the difference in the mental attitudes which underlie magic and religion, Tagore puts in Prakriti's mouth such significant words as touch the evolutionary aspect of the origin of religion.

"Mother, yours is an ancient spell, as old as life itself. Their mantras are raw things of yesterday" (1953 : 146).

This is not an impulsive utterance, but it is a statement that comes closer to anthropological fact. The spell is entirely of a magical character; mantras here stand for religious prayers or chants. Tagore here affirms that the spell is older than mantras, that incantation is more primitive than prayer, that magical practices are older than religious performances. Elsewhere Tagore emphatically describes magic as "spell of the primeval earth", when Prakriti beseeches her mother in the following words : "Set in motion your spell of the primeval earth, and shake the complacent heaven of the virtuous" (ibid : 152). This is a positive reference to the attitude of the mind which gives rise to magic. This attitude is earth-bound. It is activated by a desire for temporal possession and power. It is at strife with the religious attitude which signifies the tranquil power of spirit. But what chiefly concerns us here is that the earth-born attitude is decidedly older than the one that takes into account the power of spirit or moral righteousness. If magical practices are older than religious performances, it naturally follows that magic precedes religion, and that the magician is the precursor of the monk.

This view is in perfect agreement with that expressed by Sir James Frazer in his classical treatise, that "in the evolution of thought, magic, as representing a lower intellectual stratum, has probably everywhere preceded religion" (1911 : 237ff.). To quote

further: "In the first place a consideration of the fundamental notions of magic and religion may incline us to surmise that magic is older than religion in the history of humanity" (1957 : 71). Tagore fully endorses this surmise when he refers to magic as "an ancient spell", and to religious performances as "raw things of yesterday". We thus find that Tagore has a remarkable affinity of outlook with Sir James Frazer when he dramatically affirms that magic and religion are sharply opposed to each other, and that in the most primitive stages of human evolution, the human mind was dominated by magic.

Even the mighty force of magic is fully recognised by Tagore. He voices such a recognition through the lips of Prakriti's mother: "I have worked the spell through all its stages—such force might have brought down Indra of the thunderbolt himself" (op. cit. : 149). That magic has the potency to bring down the chief among the gods is not a conjectural statement. Even Sir James Frazer has alluded to such an assumption of astounding power controlled by the magician. "Thus it assumes that all personal beings, whether human or divine, are in the last resort subject to those impersonal forces which control all things, but which nevertheless can be turned to account by any one who knows how to manipulate them by the appropriate ceremonies and spells" (1957 : 67-8). He further states : "In ancient Egypt, for example, the magician claimed the power of compelling even the highest gods to do their bidding . . ." (ibid. : 68).

Tagore's approach to magic and religion is also characterised by a vital psychological insight. We venture to trace his approach to the origins of magic and religion along the line of psychology. Prakriti typifies the will to magic, the will so dizzily inebriated with a craving for possession. While coaxing her reluctant mother who is a magic-adept to work spells on the monk, she pours out her soul in an utterance through which Tagore implicitly hints at the driving force behind the will to magic. Says Prakriti : "I fear nothing any longer, except to sink back again, to forget myself again, to enter again the house of darkness" (op. cit. : 142). These are not casual remarks but words pregnant with psychological suggestions. 'To sink back again', 'to enter the house of darkness again', these phrases, stripped of metaphorical sense, imply to lose one's individuality which once has leapt to the conscious level. Prakriti's fear then implies a sense of anxiety on her part to preserve her individuality which comes into the orbit of consciousness by the grace of Ananda. What imparts a fierce intensity to her sense of possession and magical enterprise is her instinctive desire for personal survival. Psychologically speaking, this refers to the instinct of self-preservation or the will to live which is anxiously asserting within her. Prakriti's sense of fear is thus akin to a sense of overwhelming anxiety to avoid a relapse into a state of forgetfulness of her own individuality. Sigmund Freud holds that as an effective condition, "anxiety serves the purposes of self-preservation as being a signal of the presence of a new danger" (1949 : 112). Prakriti's insistence on magic as a means to "possess"

the monk is thus not merely accidental; it is, in fact, the manifestation of the instinctive need of her nature, the instinct of self-preservation, the will to live that flames out in a mood of fearful insecurity. Tagore thus discovers that the root of magic lies in the will to live when it reaches the self-conscious level of egoistic possessiveness. And it is in this psychological context, we submit, that the poet speaks of the "ancient spell, as old as life itself" (op. cit. : 146).

The working of the instinct of self-preservation is further glimpsed in Prakriti's trend to justify the need associated with the gratification of her self. In the heat of her newly-awakened awareness of human dignity, when she finds that a world of love and service is open to her individuality, she clamours to have the Bhikshu, her redeemer, dragged to her side by means of the spell of the earth. She overlooks the consequent injury to the interests of the monk and the seething, surging turmoil of the spirit that he experiences. She only seeks to "enthroned" Ananda, the monk, "on the summit of all her dishonour" (ibid : 153). This act of enthroning savours of self-justification which is associated with the instinct of self-preservation. In this connection we have an authoritative statement made by Freud. "The instinct of self-preservation will attempt to turn every situation to its own account" (op. cit. : 182).

This view is exemplified in the rationalised approach of Prakriti who, in an attempt to preserve her newly-gained individuality, shuts her eyes to the unworldly way of the monk and is only hysterically alive to her own self-interest which trifles with the magic-bred conflict in the mind of Ananda. Her dominant spirit of self-aggrandisement is unmindful of the monk's torment and seeks to bathe it in the ambrosial waters of her pain's immensity. She cries out to her Mother : "Make him come to the very end, make him come right to my bosom! After that I will blot out all his suffering, emptying my whole world at his feet... Deep within are springs of nectar, where he shall bathe and anoint his weary, hot and wounded limbs" (Tagore op. cit. : 148).

Here, from a psychological standpoint, Prakriti's viewing of the monk's relief in her mode of self-gratification means assertive self-justification behind which the will to live is operative.

After exploring Tagore's view of the origin of magic which lies in the will to live, we trace his view of religion which lies suggestively embedded in the final phases of Prakriti's attitude that undergoes an amazing transformation which is essentially religious to its core, we find that ungoverned emotions go ill with Prakriti's new birth or self-awakening. It is only when the deepest and the sanest part of her self asserts, she takes a forward leap. Her egoistical and utilitarian considerations stand condemned in utter disillusionment. She realises how she has overlooked the solidarity of the spiritual pattern by promoting her self-interest. "What have you done? What have you done? O, wicked, wicked deed!... How worn, how faded, has he come to my door" (ibid. : 153). Here Prakriti's mood of magical vagrancy gives way to the mood of critical searching,

self-analysis which sets at rest inner tensions and discordant elements born of the sentiment of self-regard. She is wide awake. Her whole being is stirred. And raised above the welter of blundering emotions, she experiences the fulness of her integrated self. Her decision to undo the spell and to offer no insult to the heroic, to make no irreverent assault on life that is essentially spiritual is not the accidental expression of her character, it is, in truth, the response of her entire self to the voice of her whole personality. It is not repression of the abnormal temptation in the flesh, but the liberation of the mind from the downward pull of the ego. It is the victory of self-transformation over the egoistic ambition. It is, to adapt a psychological phrase, the sublimation of her entire instinctive nature. For "neither free expression of the libido, nor repression, nor yet suppression or inhibition, can succeed in satisfying and integrating the whole personality such as is possible with sublimation" (Davies 1947 : 73).

Viewed in this psychological context, religion, for Tagore, as a new level of being is an arrival, to whose advent the whole personality has contributed. It is essentially a process of discovery and experience affected by a profound modification of our inward being. It suggests a new attitude, an attitude of adhering to the whole. It, therefore, seems to originate in the will to grow into fulness of life. The will to live, in the evolutionary scheme of things, does not mean merely the will to survive or the will to grow, but it also implies the will to grow into richer and fuller life. While acclaiming that the theory of evolution postulates the struggle for life, William McDougall makes similar remarks : "Animals do not merely react mechanically to physical impressions—they struggle to survive, to hand on the torch of life; they struggle for more and better life" (1934 : 11). Even Professor Hocking of Harvard University, in his great book *The Meaning of God in Human Experience*, writes repeatedly that religion is as deep in man as the will to live...³

Thus traced along the line of the instincts and the instinctive needs of man's nature, the origin of both magic and religion as suggested by Tagore, is common. The will to live and the will to live an integrated life—these two will-attitudes are exemplified in magic and religion. Yet the common ground recedes into the yawning gulf between the two. Each expresses a different, characteristic point of view. Both emerge out as two distinctive outlooks, representing two types or strata of consciousness, giving rise to different modes of belief as well as practices.

Tagore has also alluded to certain illuminating and suggestive features which specifically distinguish between magic and religion. When Prakriti's mother advises her daughter to watch and wait in a spirit of resignation, she boldly declaims her mother's submissive approach to destiny and affirms her faith in self-assertion which is the way of magic. "That won't do for me; I won't simply sit and watch. You know how to work spells; let those spells be the clasp of my arms, let them drag him here" (op. cit. : 142).

This clearly points out that the will to magic as personified in

Prakriti is self-assertive. It does not drift toward self-complacency. It seeks to conspire against the existing scheme of things, and is eager to set it after its own heart's desire. Tagore himself elucidates this view in one of his lectures : "Thus we find that man is not content with the world that is given to him; he is bent upon making it his own world. . . . Even in his savage days he would change things by magical powers" (1917 : 89).

Modern psychology too supports this view : " . . . the savage knows that he himself changes the external world by his impulses and his will" (Cattel 1939 : 17).

Prakriti's insistence on employing the magical art for dragging the monk is a positive reference to assertive impulse behind the conscious will to magic that seeks to pull the world of necessity to its purpose. This also shows the primitive character of magic which is rooted in man's will to change the external environments. Sigmund Freud too alludes to it when he holds : "In his fight against the powers of the surrounding world his first weapon was magic, the first forerunner of our modern technology" (op. cit : 211).

Even the Mother's own approach (which is symbolical of a magician's attitude) to Ananda's ensnarement is not free from the element of vindictive arrogance and confidence in the conquering potency of the spell.

"I will chant the spells, I will bring him. All along the dusty road I will bring him. 'I want nothing', he says in his pride. I'll break that pride and make him come, running and crying, I want, I want" (Tagore 1953 : 146).

The terms "I want nothing", and "I want, I want", touch the core of distinction between religion and magic. The words 'I want nothing' issue out of an illuminated consciousness which has undergone a religious experience. These are indicative of inner peace and contentment and disinterestedness which are born of religious transfiguration of one's being. But magic, for Tagore, is synonymous with the world of claims and counter-claims. It is an egoistic impulse that leads to the cult of power. When Prakriti takes recourse to magic to "possess the monk" her mind is the instrument not of the spirit but of the ego. But when she wakes up to the world of the spirit, she shakes off her possessive, aggressive instinct and rises to the level of self-renunciation. She then gains religious self-fulfilment in self-surrender. Magic, then according to Tagore, operates from ego-centred. Consciousness and religion is anchored in the spirit of self-surrender. While elucidating Dr. Otto's concept of sacredness, Prof. E. James too alludes to such a basic concept of self-surrender in religion : "... a receptive and submissive attitude which lies at the root of the religious response to sacredness" (19 : 38).

Tagore's view of religion in this sense differs from that expressed by Sir James Frazer who by religion understands 'a propitiation or conciliation of powers superior to man which are believed to direct and control the course of nature and of human life' (1957 : 65). Tagore, on the other hand, looks upon religion as growth, a movement towards the freedom of the spirit. Magic impedes

such progress and, therefore, it should be rejected. When Prakriti overcomes the stresses of her personal will, she cries out to the Mother to undo the spell. She herself "kicks the paraphernalia of magic to pieces", and prays to Ananda : "O Lord, you have come to give me deliverance" (op. cit. : 154). Tagore thus holds that religion lifts the magic-embracing ego into the realm of spiritual freedom. Religion in this sense is not mere 'propitiation or conciliation of powers' outside the pale of human personality, but it is the call of the deeper self in man to seek fruition in the perfect self-giving love that emancipates. While Sir James Frazer distinguishes two ages in human belief, viz, the age of magic and the age of religion, Tagore distinguishes two phases in human consciousness, the phase of magical self-satisfaction and the phase of religious self-surrender. This re-assessment of human nature, along the line of psychology, is the marked characteristic as well as the notable contribution of Tagore to the study of magic and religion.

Tagore also introduces the element of inward realism and social force when he makes self-surrender integral to the religious attitude. *The Dictionary of Anthropology* draws the following distinction between religion and magic : "Religion is a social activity, while magic typically is individual. The goals of religion are diffuse and general while those of magic are specific and limited". (Winick 1957 : 336). That the magical standpoint is rooted in sheer individualism is accepted by Tagore. But he does not believe that religion is a social phenomenon. He, however, takes into cognisance the social impulse in the urge from which religion springs. A magico-religious analysis of the play reveals that self-consciousness leads to the emergence of the human individual who can achieve the integrated personality by shaking himself loose from the trammels of the ego. Social environments do not obscure but secure the unfoldment of human personality. Prakriti is awakened to the truth of her personality by a call from the monk who, with a sense of inner detachment, has not shunned society but who moves about to remove the odium of ignorance from it. When she leans towards liberty, she, in fact, clamours for personal salvation which is nothing short of self-preservation born of the selfish impulse of the ego. Tagore himself excellently remarks : "All our egoistic impulses, our selfish desires, obscure our vision of the soul. For they only indicate our own narrow self. When we are conscious of our soul, we perceive the inner being that transcends our ego and has its deeper affinity with the All" (1913 : 27). Prakriti's isolated self-seeking is a denial of social order itself. It is the consciousness of her own necessity which makes her hypnotise the will out of the monk, to make her self-interest absolutely secure. Tagore thus clearly refers to the fact that self-love and self-seeking are inherent in the will to perform magic. When Prakriti dislodges herself from the social domain, she faces the emotional aspects of her unintegrated self. It is her new vision of the individual's claim against the claim of the monk that fills her world with a turmoil and turbulence. It is only when she gets off the track of her emotional,

egoistic pattern that she realizes the integrity of the self by recognising what is permanent in the monk, the rights of the holy man, and gains a new kind of submission to the social standard. The religious, for Tagore, is then not the extension of the magical. It is a new dimension altogether, dealing with apprehension of the whole. Even Radhakrishnan makes an authoritative statement in regard to the religious experience. "It is a breaking up of our selfishness and a reaching out towards the whole" (1918 : 75).

We thus find that magic and religion in *Chandalika* are treated as two attitudes apart. The aim of magic is to gain a restricted sense of security by wish-fulfilment and assertion on the personal plane. Religion for Tagore aims at salvation which is the enlargement of self that lends itself to the enlargement of humanity. This salvation is the result of a profound alteration of the nature of man rather than mere "propitiation of powers". While magic is the mechanistic pull of the ego to win the world of necessity to one's ends, religion transcends the play of self-centredness and results in harmony with the world to be achieved in a spontaneity of self-surrender and sacrifice.⁴ It is in this ideal sense religion, according to Tagore, strengthens the bonds of human cohesion. A similar view is put forward by Hartland. He says : "When all is said, however, religion is (ideally, at least) social—that is to say, moral—in its aims and tendencies, whereas magic lends itself to individualist aims. Religion binds the society together by raising the individual above himself, and teaching him to subordinate his desires and actions to the general good ; magic has compunction in assisting to carry out the wishes of the individual, though they may be contrary to the interests of the society as a whole" (1914 : 88-9).

On the basis of the preceding analysis, we safely conclude that Tagore's handling of magic and religion in *Chandalika* is vitally characterized by a scientific outlook, an outlook that lends not only a richer tone and deeper significance to the play, but it also reveals how the playwright's mind could not escape the unconscious assimilation of scientific thought. Tagore's view of religion, as discovered in the play, results in the concept of a progressive movement of mankind, the psychological consciousness of its inner growth. He shows that religious evolution presupposes the concept of magic. Though magic and religion, when studied in the context of psychology, may have a common root in the will to live, yet they are entirely independent and never fuse. The distinctiveness of magic is determined by the emotional pattern and the context of the specific self-centred interest. Religion in its evolutionary aspect marks the transition from one phase of consciousness to another. Human consciousness, drunk with self-satisfaction, moving along the path of distorted self-discovery and revelling in a turbulent tune of covetousness and separateness gives rise to a magical mode of thought and practice ; but when it emerges out of its hypnotised circle of self-gratification and recognises the rhythm of the whole, it enters a larger and wider plane of being which we call the religious. This is remarkably symbolised in the turmoil of Prakriti which is nothing but a dramatization of the will to magic that finds

its fulfilment in religious self-renunciation. In this connection we may point out that it is Prakriti who symbolises the will to magic, the magical mode of mind, the magical state of consciousness which pines for self gratification, rather than the Mother who, though a magicidept, is merely a tool in the hands of her daughter. Tagore significantly puts these words in Prakriti's mouth. "What are you afraid of, Mother? Yours are the lips I use, but it's I who chant the spells" (1953 : 144).

We thus observe that it is in a wider context that Tagore distinguishes between magic and religion as the stages of psychic intoxication and spiritual consciousness respectively. That the human consciousness has advanced in an orderly sequence from the crude to the refined, from the simple to the complex is the determining factor in the growth of its magical sense of self-satisfaction into the religious sense of self-surrender. This comes nearer to Sir James Frazer's presumption that magic "represents a ruder and earlier phase of the mind...". 1957 : 74).

Yet magic, for Tagore, is not religion perverted, nor is religion magic refined. In the evolution of human culture, magic precedes religion but religion, in the essence, supersedes magic.

NOTES

- 1 The play was first published in Bengali in 1933. For our purpose, we have adapted its English translation made by Marjorie Sykes, included in *Three Plays* published by Oxford University Press, 1953. All textual references are extracted from this work.
- 2 Compare: "Religion is a challenge to replace the world of power by that of spirit" (Radhakrishnan 1933 : 104).
- 3 Quoted by Thomas Hywel Hughes (1942 : 30).
- 4 Cf. Marett (1909 : xi): "Religion in its psychological aspect is a model of social behaviour".

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'RI SENG' OR LAND OF COGNATES AMONG THE WAR KHASI¹

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The War Khasi², one of the sub-groups of the Khasi tribe, inhabit the southern slopes of the United Khasi and Jaintia Hills District, one of the Autonomous Districts³ of Assam. In this part of the hills there is a system of common land-holding known as 'Ri Seng' or land of the 'Seng' ('Ri=land; 'Seng'=a cognatic group). 'Seng' is a non-exogamous cognatic group consisting of male and female members descended from a common ancestor or ancestress whether through males or females. The Seng is recognised in the matter of land ownership where the common ancestry entitles joint ownership to an undivided ancestral land. Originally the 'Ri Sengs' were private holdings; for instance, 'Ri Lai Seng' (discussed later), a 'Ri Seng' in Tyrna village which was originally owned by Ka Ramduk, 'Ri Seng' from U Khang of Mustoh-village, and so on. After the death of the owners those lands were not divided between the heirs but held in common and generation after generation the right of ownership rolled down to the following heirs giving rise to a joint ownership. Among the War Khasi, unlike the Khasi proper, children of both sexes inherit the parental property. So, the undivided land of an ancestor or ancestress belongs to all the members (i.e. 'Seng') who have blood relation to that ancestor or ancestress through father or mother.

In this War Khasi country besides 'Ri Seng', there are five types of land-holding as follows :

1. 'Ri Shnong'—these lands are the property of the village and any member of the village can fetch timber, firewood, thatching grass, etc. from there for domestic use. Such lands may also be cultivated by the members of that village ; but they possess only the occupancy rights and cannot transfer them.

2. 'Ri Laokyntang'—these are sacred jungles and are thought to be the abode of some spirits. Cutting timber or fetching anything from these jungles are considered as 'Sang' or taboo.

3. 'Ri Kynti'—these are private lands which have been either inherited by a person from the parents or acquired by purchase. On a 'Ri Kynti' the owner holds absolute right and he can mortgage, sell or transfer it according to his will.

4. 'Ri Shieh'—during division of the 'Ri Seng' an extra share is given to the 'Ka Khadduh' of the 'Seng' (i.e. youngest daughter in the line of the Seng). This land is called 'Ri Shieh'. If after the death of the parents, their private lands are divided between the children, an extra portion of land in the name of 'Ri Shieh' is allotted to the youngest daughter or 'Ka Khadduh'.

'Ri Shieh' is solely enjoyed by the 'Ka Khadduh' and after death devolves upon her youngest daughter and so on.

5. 'Ri Kur'—during division of the 'Ri Seng' (if the original owner was an ancestress) or landed property of mother, a portion of land is kept separated which is called 'Ri Kur'. This 'Ri Kur' is kept in the memory of the owner and is enjoyed by the children or descendants in the female line having the same clan of the owner.

In War Khasi country, particularly to the south-west of Cherapunji, considerable portions of the hill-sides were 'Ri Seng' or property of the 'Sengs'. Now-a-days though in some cases the old 'Ri Sengs' have been divided up between 'Seng' members and have become 'Ri Kynti' or private properties, still there is a good number of such common land-holdings in this country. After the death of the parents, children do not generally divide the landed property; they make mutual allotments and each plants or cultivates in his or her own portion. The whole income from the allotted portion goes to the respective occupants and the occupancy right devolves upon the children. This gives rise to a common land, 'Ri Seng', on which there is individual right of occupation but communal right of alienation. If a portion of the 'Ri Seng' is already occupied and cultivated, any other member of that 'Seng' cannot trespass into it; but if one does so it would be 'Ka Birsih' (to plant in other's plantation) and the matter would be referred to 'Darbar Seng' or 'Seng' council for arbitration. But if the land is kept fallow for more than two years, another member of the 'Seng' can occupy it and cultivate. As long as the land is cultivated the title rests on the occupant and the 'Darbar Seng' has no authority to oust the occupant and transfer the land, provided the occupant does not commit any offence.

DARBAR SENG :

The affairs of the 'Ri Seng' are dealt with by a 'Seng' council or 'Darbar Seng' which is composed of 'Tymmen Sengs' or old men of the 'Seng' representing different branches or sub-Seng. Each of the 'Tymmen Sengs' attends the 'Darbar' with an assistant 'Bud Tymmen' who is generally his son or any other male relative. There is no fixed time or date to hold the session of the 'Darbar'; it may be convened at any time in exigency. The Darbar sits in the 'Rai iing Seng' (old house of the 'Seng') i.e. in the house of 'Ka Khadduh' or youngest daughter in the line of the 'Seng'. Ordinary 'Seng' members also join the 'Darbar'. Women do not participate.

The 'Darbar Seng' may impose a fine, 'Kakuna' and ex-communicate, 'Taid Seng' a person from the 'Seng' for serious offence such as, non-obeyance of 'Darbar's' order, non-payment of fine imposed by the 'Darbar', and refusal of sharing the expenditure incurred in connection with 'Ri Seng'. If 'Taid Seng' is imposed then accused with his following generations will lose the right on 'Ri Seng' and the kinship tie with the 'Seng' which is mainly recognised to enforce the right on 'Ri Seng' will be nullified. The accused and his descendants will not be summoned in any 'Darbar'.

or meeting of the 'Seng' and be able to take part in the 'Bam Seng' or feasting which the 'Darbar Seng' arranges from time to time. The 'Tymmen Sengs' are supposed to be present in all 'Darbars' or meetings of the 'Seng'. If any 'Tymmen Seng' does not present himself intentionally, he will be fined by the 'Darbar'.

The right of alienation of 'Ri Seng' rests on the 'Darbar Seng'. Any portion of the 'Ri Seng' may be disposed of or the 'Ri Seng' may be divided up between the 'Seng' members if approved in the 'Darbar Seng'. When divided between 'Seng' members, the land ceases to be a 'Ri Seng' and becomes 'Ri Kynti' or private land. During division of 'Ri Seng' a 'Darbar' is convened and the land is divided between 'Seng' members according to the traditional pattern which may be diagrammatically represented as follows (see Fig. II) :—

If the 'Ri Seng' devolves from A (i.e. 'Ri Kynti' of A), the land will be first divided into three parts according to the 'Kpohs' or branches of C, D, and E. The part of E will be divided into two parts according to G and H. The part of G will be divided between K and L and the part of H between M, N, and O. The same system will be followed in case of 'Kpohs' of C and D. 'Ri Shieh' would be allotted to the youngest daughter in the line of D.

Though each and every 'Seng' member has the right on the 'Ri Seng', one may not get a plot there to cultivate if whole of the 'Ri Seng' is already occupied and the 'Darbar Seng' has no authority to redistribute the land. Among the Lhota Naga the clan members meet and apportion out the clan land which each is to cut that year (Mills 1922 : 97-8). Here the occupancy right does not devolve to the next heirs as in 'Ri Seng' but one enjoys cultivable right for a year.

In 'Ri Seng', besides cultivable land, there remain uncleared jungles which a 'Seng' member may clear and occupy for cultivation. Moreover, a person may have some 'Ri Kynti' or private lands or may occupy some 'Ri Shnong' or village land. Dispute over possession of land in 'Ri Seng' due to scarcity is fairly uncommon.

Besides judicial, the 'Darbar Seng' has also some religious functions. The 'Seng' members try to recollect the memories of their ancestors and ancestresses and adore them by means of offerings during the 'Bam Seng' or feasting which the 'Darbar Seng' arranges from time to time. In each 'Dam Seng' a pig is killed and some specific portions from the carcass, liquor and rice are offered to the ancestors and ancestresses of the 'Seng' in front of their funeral posts.

RI LAI SENG :

About six miles to the south-west of Cherrapunji, in the neighbourhood of Laitkeynsew, Mustoh, and Mawlong villages, there is a land 'Ri Lai Seng' or land of three 'Sengs'. This land belonged to three ancestors UKynta, UNabein, and Utangrai. Descendants of the three ancestors form the 'Lai Seng' and the land which they now hold in common is known as 'Ri Lai Seng'. They still preserve

genealogies tracing them down from the three ancestors who lived more than three hundred years ago.

A 'Seng' member cannot trace his genealogical relationship to all the members of the 'Lai Seng' in lateral extension but genealogy tracing him down from one of the three ancestors in vertical extension is preserved to enforce right on the 'Ri Lai Seng'.

According to the resolution passed in the 'Darbar' 'Lai Seng', only the descendants of the three ancestors who live in the villages Tyrna, Nongkroh, Mustoh, and Nongwar have the right on the 'Ri Lai Seng'. Anybody living elsewhere due to matrimonial alliance or any other cause loses his or her right on the 'Ri Lai Seng'. It may be mentioned here that most of the descendants are distributed over five villages, viz. Tyrna, Nongkroh, Mustoh, Nengwar, and Mawlong. The 'Lai Seng' members residing in Mawlong had lost their right on the 'Ri Lai Seng' as they took the side of the Mawlong people during a dispute regarding the boundaries of 'Ri Lai Seng' and Mawlong and did not share the expenditure incurred in that connection. This rule of losing right to the 'Seng' land due to change of village is not enforced to any other 'Ri Seng'. Among the Lhota Nagas 'a man who leaves a village loses all right to clan land in the village' (Mills op. cit. : 97).

The 'Ri Lai Seng' is very rich with forest and limestone deposits. Both overground and underground rights are enjoyed by the 'Darbar Lai Seng' and it holds absolute right to lease a portion for cutting timber or to permit anybody to export the limestone. Timber and limestone are exported to East Pakistan. Royalty of Rs. 20 per thousand maunds of limestone is collected from the exporter. Half of this royalty used to go to the State Government through the District Forest Officer and the other half to the 'Darbar' fund of the 'Lai Seng'. But in the year 1954, the District Forest Officer issued a Circular claiming the whole amount of royalty for State Government and since then 'Darbar Lai Seng' had been deprived of its share.

'Darbar Lai Seng' on which the management of the 'Ri Lai Seng' is vested with is composed of eleven members. From each of the four villages, viz. Tyrna, Nongkroh, Mustoh, and Nongwar two 'Tymmen Sengs' or old men of the 'Seng' represent the 'Darbar'. Besides the eight 'Tymmen Sengs' the 'Darbar' has a President, a Secretary and a Treasurer. The President is renewed every fifth year from four villages by turn. Two 'Tymmen Sengs' from each village are chosen by the 'Seng' members of that particular village. To select 'Tymmen Sengs' the 'Seng' members of the village convene a 'Darbar' or meeting. If there are more than two candidates, the matter is finalised by voting. But generally the 'Tymmen Sengs' are mutually chosen. Duration of this post is lifelong unless one resigns. The Secretary and the Treasurer are nominated by the President and eight 'Tymmen Sengs'.

In this case the 'Tymmen Sengs' are chosen or elected; but in other 'Seng' councils a person becomes 'Tymmen Seng' by virtue of his age and position in a 'Seng', i.e. the eldest man of a branch of the 'Seng' or sub-Seng becomes a 'Tymmen Seng'.

'Darbar Lai Seng' raise a considerable fund from the royalty of limestone, 'Khajhna', or revenue from the betel leaf plantation, and by leasing some portions of the 'Ri Lai Seng' for cutting timber. Every year, generally in the month of May, the 'Darbar' is convened to scrutinise the yearly income and expenditure and for disbursing the 'Darbar' fund. One third of the income is divided equally among eight 'Tymmen Sengs' and the President. Each 'Tymmen Seng' may, on his discretion, give two or three rupees from his share to the President as 'Ai Burom' or respectful bid. From the two third, the expenditure is deducted and from the remaining sum Secretary and Treasurer are paid. Secretary gets an equal amount which each of the 'Tymmen Sengs' and President gets. The Treasurer is paid a lump sum. The rest is divided among the four villages equally. The 'Tymmen Sengs' of a village distribute the villagewise share among the 'Lai Seng' members convening a 'Darbar'.

DISCUSSION :

P.R.T. Gurdon in his monograph on the Khasis has given a short account of the 'Ri Lai Seng' in which he identifies 'Seng' with clan and remarks about the counting of descent through ancestors, i.e. in the male line (1914 : 90). But 'Seng' is not a clan ('Kur' or 'Jaid' as the War Khasi call it) as he has mentioned but it is a cognatic group members of which hold collective proprietary right on an ancestral land and recognise their blood relation to that ancestor or ancestress, either through father or through mother to enforce their hereditary right on that land.

Among the War Khasi, clan and 'Seng' are two different social groupings. Clan is strictly exogamous and matrilineal, i.e. an individual is affiliated to his or her mother's clan. 'Seng' is a non-exogamous (i.e. neither exogamous nor endogamous) unit and members of it may belong to different clans due to clan exogamy (See Fig. I).

Among the Khasi proper, clan is matrilineal and all movable and immovable property devolves in the female line, i.e. property passes from mother to daughters. So, the collective proprietary right on an undivided ancestral land is held by the members belonging to the clan of that ancestress. Thus, the land becomes a 'Ri Kur' or clan land on which a person belonging to that particular 'Kur' or clan has the right. But among the War Khasi although the descent is matrilineal like the Khasi proper, children of both sexes inherit parental property. So, as clan exogamy is the rule, undivided land of an ancestor or ancestress does not become the property of a particular clan but belongs to all the members who have descended from that ancestor or ancestress (i.e. Seng) irrespective of clan.

In most of the primitive communities land belongs to a local group⁵ or clan, or any other such division. Among the Mundas though the idea of private property had already been developed and most of the old 'Khuntkatti' or collective system of land holding had broken up and given rise to 'Bhuinhari' or individual land ownership, 'their cherished idea of ownership of land, however,

was the archaic one of joint ownership by the family or by a group of agnatic families. . . . Each family made in the virgin forests its own clearances which came to be called the "Hatu" later on known as the "Khuntkatti Hatu", or the village of the family of the original settlers. . . . everything above ground and under ground became the common property of the village family' (Roy 1912 : 115-16).

It appears that in the 'Ri Kur' of the Khasi proper and in 'Khuntkatti' of the Munda, the proprietary right is limited to matrilineal and patrilineal kins respectively. But on a 'Ri Seng' the right is not limited to an unilineal group.

In a 'Khuntkatti hatu', the eldest son in male line of the original settlers becomes the temporal and spiritual head of the village (Roy op. cit. : 117). Among the Khasi proper the manager of the clan lands is the 'Kni' (maternal uncle of the youngest daughter of the main family, or branch of the clan) (Gurdon op. cit. : 88). The 'Ri Seng' is managed by the 'Darbar Seng' and each 'Tymmen Seng' has equal rights and obligations.

The transmission of occupancy right on a common land to the next heirs, as in 'Ri Seng' is not uncommon. Among the Mundas, in course of time, individual 'Khuntkattidars' came to hold specific portions of the cultivable village lands and claimed those to be their own and left them on their death to their own heirs (Roy op. cit. : Appendix III, xlvi). Thus the idea of transmission of occupancy right to the children develops.

Among the Abors . . . 'the division of land, in most cases, represents areas first cleared of the virgin jungles by the household of the original squatters; and the cultivation titles are then passed on to the male descendants' (Gohain 1953 : 41).

In Wogeo, one of the Schouten Islands situated off the northern coast of New Guinea, 'when a man has selected a site, no one may take it from him, and his crop is private property. . . . The right to practise agriculture and to collect fruit and nuts normally passes from a father to his sons' (Piddington 1952 : 295-6).

It should not be left unnoticed that individual rights and obligations play a vital role in most of the communal land holdings and they are not strictly 'communal' in sense. On a common land though the right of alienation and the formal title rest on the community, individual rights and obligations are present which are revealed in closer investigations. 'In Maori land there was an individual right of occupation but only communal right of alienation, (Firth 1929 : 367-8 quoted by Slotkin 1950 : 337).

Though the 'Ri Seng' is the property of the whole 'Seng' and the right of alienation is communal, the right of occupation is strictly individual. When a portion of the 'Ri Seng' is occupied and cultivated, it is free from trespass and the crop is private property of the occupant. As long as the land is cultivated, the title rests on the cultivator and the occupancy right devolves upon the children.

Two principles of recognition of kin which are functioning in the social organisation of the War Khasi—one directing the descent through female line in the matter of clan affiliation and the other

through male and female lines in the matter of inheritance—are of special importance.

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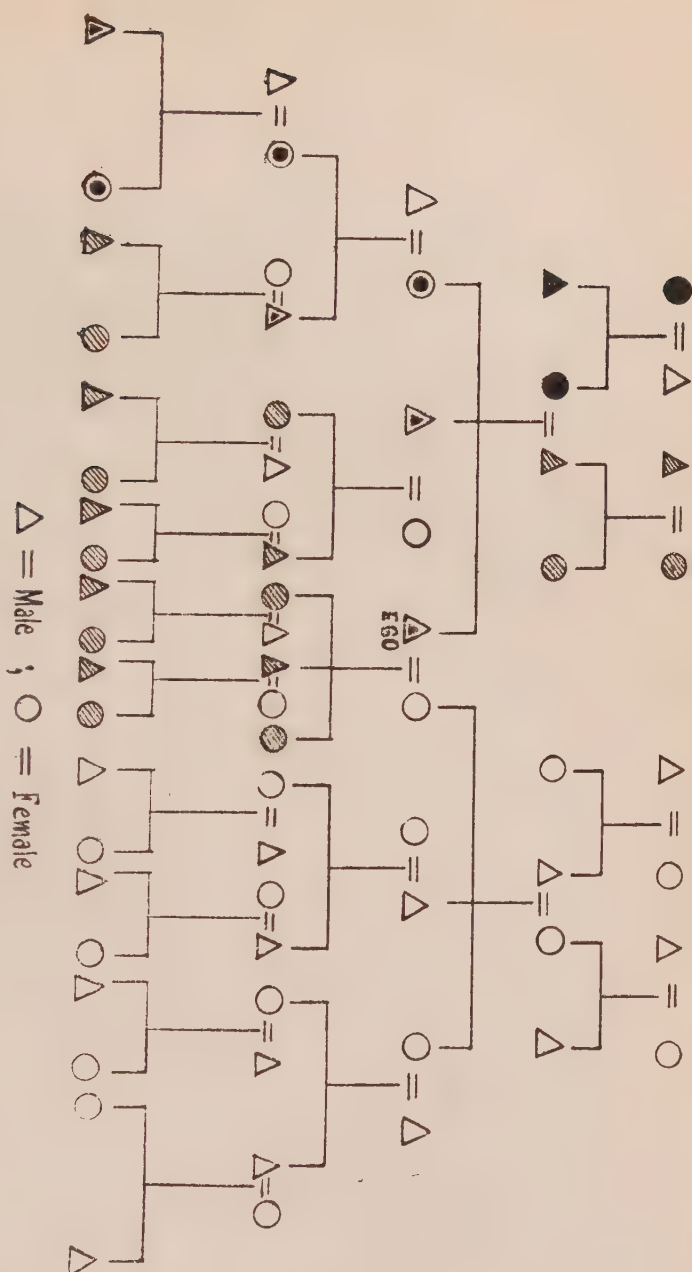
NOTES

- 1 The paper was presented to the forty-seventh session of Indian Science Congress in Bombay, 1960.
- 2 Besides the Khashi proper who inhabit the central of Khasi Hills, the tribe Khasi has four sub-groups, viz. Syntengs or Pnars who inhabit the Jaintia Hills, Lynngams living in the western portion of the Khasi Hills proper, Bhois of the low hills to the north and north-east of the District and Wars inhabiting the southern slopes of the District.
- 3 Autonomous District means an area deemed as such under paragraph 1(i) of the Sixth Schedule to the Constitution of India.
- 4 The War Khasis are mainly cultivators of orange, betel leaves, and betelnuts and the landed properties are practically semi-permanent gardens.
- 5 The natives of the Great Andaman, the Aruntas of Central Australia, and some other food-gathering tribes are divided into a number of small communities, each of which occupies a defined area of the country where it hunts and fish or collects edibles. These territorial divisions are called local groups. See Radcliffe Brown, A.R. 1948, pp. 22-29, and Spencer, B. and Gillen, F.G. 1927, p.8.

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Fig I

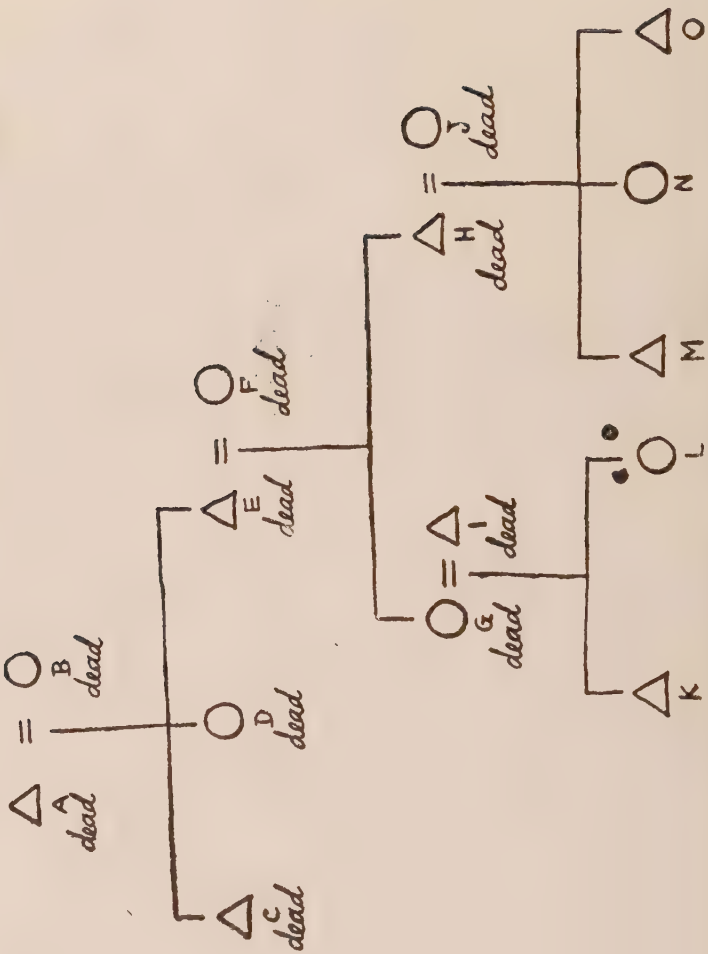


$\bullet, \blacktriangle = \text{Ego's clan}$

$\bullet, \blacktriangle = \text{Ego's 'Seng'}$ [WHEN THE 'Ri Seng' DEVOLVES FROM EGO'S PATERNAL GRAND PARENTS]

$\bullet, \blacktriangle = \text{Ego's Clan + 'Seng'}$

Fig. II



KINTERMS OF THE MIKIR

C. OP'T LAND

Dacca (East Pakistan)

The *Mikir* can be found in Assam and more properly in the United District of Mikir and North Cachar Hills. They also live in good numbers in the Nowgong-district and some Mikir groups are settled in the Jaintia Hills, where they mix with Synteng and Khasi. I had the opportunity to visit some Mikir villages in the Nowgong area, while staying with my family on one of the many tea-estates. The tour was rather short. Much information remained fragmentary. I did not want to fritter away the time available on disparate topics and I had made the kinship terminology my main interest. As many Mikir are bilingual the recording was not too difficult. Moreover, I had afterwards the chance to check my field-data against the explanation of some well-educated Mikir in Shillong. As a consequence the data on kinterms seem rather coherent and far more complete than Sir Charles Lyall's list (in "The Mikirs, from the papers of the late Edward Stack", London 1908. p. 20), the only other source I know of.

There are differences to be noted between his and my list. These appear however to fall within the limits of common mistake. For instance Sir Lyall did not distinguish between eFaBr and yFaBr, nor between eMoSi and yMoSi. It does not surprise therefore that he allots the term "*pinu*" to all the FaBr's and "*pinu*" to all the MoSi's. As will be clear from my list the Mikir do distinguish both the FaBr's and the MoSi's according to seniority. This case raises the interesting question why the Mikir (?) informant gave Sir Lyall the terms for the *junior* relative in both instances. One would expect him to mention the terms for the seniors first, because seniority enjoys more prestige. I failed to investigate the issue, nor am I aware that my informants had the same habit of *systematically* mentioning the junior relation first, in unspecified questions. But then I always used diagrams.

Essential differences between the two lists are none unless one would like to give much weight to Lyall's lumping together of all Fa's and Mo's sisters under the term "*pinu*", not corroborated by my findings.

Anyone who ever has collected kinship terminologies in the field will know how easily misunderstanding can arise. I have therefore been careful to take down complete term lists on different occasions. Each time there was a gathering of about seven or eight men. They were all drawn into the discussion by direct questioning. Thus I prevented that the answers would be given by one courageous man only, while the others preserve their corrective commentary for the moment I would be out of earshot again. To encourage the group discussions I made large drawings in the

dust applying the usual symbols: a triangle for a male person, a circle for a female one, etc. Surprising as well as gratifying it was to observe the ease with which these illiterates manipulated the models, once they had grasped their meaning. They immediately put to use these drawings in demonstrating their point. "I am here. This is my father", etcetera. Some would even amend the diagram, using a twig or their indexfinger. How they understood the pictures became clear on those occasions when they started discussing the issue among themselves. Unfortunately these discussions invariably became incomprehensible because of the welter of personal names often taking the place of the less direct kin-terms.

Even so my data did not prove without flaws under the magnifying glass of systematic analysis, and several clues apparently were not followed up. It is therefore better to give the data as they were recorded and not to wrap them up in a nicely reasoned out explanation where interpretation and assumption might mingle with factual information. Below is given the bare list of kinterms, as I collected them. In juxtaposition is Sir Lyall's list—which is almost 80 years older. In addition I give with a minimum of commentary the spontaneous or asked-for explanatory information obtained from the people. In reducing the sounds I heard to writing I was careful to follow the Italian pronunciation. This was by no means always easy. There was in the first place my own ignorance of the language and the correct pronunciation of words. In the second place there was the indistinct articulation of the people themselves who when hard-pressed for the distinct sound often proved embarrassed. For instance the suffix "*he*", indicating respect, was often heard as "*hei*". The final "*i*" most obviously originating from prolonged exhalation while the mouth is being closed. Also local dialect might sometimes have distorted the correct spelling. Only extensive study of the language can reveal the proper pronunciation and orthography. These objections though justified do not impair the list nor would they interfere with an analysis, since no terms were found to be so closely similar as to result in pseudo-identity.

ANNOTATIONS :

- (1) "*phu*" is also a term of courtesy used in addressing unacquainted people.
- (2) my family = "*ne kor, ne rap*"; relatives (in general) = "*ne don, ne rap*"; "*ne*" = my; "*kor*" = kinsman; *rap* = being related to, having connection with: Note the similar way in which the Khasi often express themselves by repeating the same statement in other words.
- (3) "*bong*" is used for both sexes. Although the constructs "*bong-pit*" and "*bong-po*" would make sense, they are never heard.
- (4) Husband can call his wife by name or clan name, but the wife cannot call her Hu using his personal name. She cannot even use his clan-name. Neither is it the custom that spouses call each other with the technical terms "*penan*" and

"*piso*". The wife can call her husband by using a tecnonymic.

- (5) "*ong-he*" (MoBr). I also heard "*onk*" and "*onk-he* (i)". The suffix *he* denotes respect, but it is also said, that "everybody who is called "*ong*" is treated with respect". This agrees with another statement saying that the "*philipi*" is always a little bit inferior in status and therefore has no need to say "*ong-sar*" — "*sar*" also indicating a higher position. Both *ong-he* and *ong-sar* would be tautological.
- (6) "*philipi*" is a strange term. It breaks down into "*phili*" (=four) and "*pi*", a suffix indicating female sex. No explanation could be obtained so far.
- (7) "*men*" occurs in several kin terms. SoDa *lok-a-men* (eSiSo), which term means literally "the returned *lok*" (=FaSiHu). It makes sense only in regard to the rules of marriage and the Mikir conception of man. As it proved the Mikir do believe that man is reborn after an unknown number of generations. He is not necessarily reborn in the same lineage though he will come back in the same clan.
- (8) In matrimonium the first choice is the MoBrDa. Failing her the young man may propose to any other girl in any village including his own. However his preference goes to other girls of his MoBr's village, and his choice is restricted by the following limitations;
 - (a) no bride from Fa-clan,
 - (b) no bride from FaSiHu-clan (the girl would be a *phili-pi*)
 - (c) no bride from MoSiHu-clan (the MoSi (*pinu*) is married to *punu*, who is more or less like a FaBr)
 - (d) woman cannot marry into clan of BrWi, but a man can. Brothers do not like to marry sisters, though allowed. Another source even has it that brothers can not marry two sisters. Sister exchange is impossible.
 - (e) The younger brother must take a bride younger than his eBrWi.
 - (f) levirate is not prescribed, but junior levirate occurs "fairly often". The widow may marry anybody, children going to the new husband's village, but do not take his clan nor inherit from him. When a wife dies her husband "looks for her sister to marry".
 - (g) adoption of children of the man's clan does occur. The institution has no separate terms to distinguish the adopted from natural children.
- (9) All Mikir-clans have equal status. A man of any one clan can marry a woman from any other. Vice versa a woman of any one clan can take a husband from any other clan. Bride-wealth is not involved. Negotiations are initiated by bridegroom's family, who in this act assume a slightly inferior status. (Their request might be turned down).
- (10) There are said to be five main clans, called "*akur*" or "*kor*".

This word sounds very much like the Khasi-word for clan (kur). The Mikir do not use the term frequently. They give the name directly on the traditional question "what is your (a) kur" ?. However instead of asking "pi akur?" (=what is your clan?) the customary formulation is "no kichu pi?" (=who suckled you?), a striking formulation in a patrilineal organisation indeed.

- (11) The five clans are :
- (1) Ingti (5 subclans called "*kurjon*")
 - (2) Ronghang (30 "*kurjon*")
 - (3) Teron (6 "*kurjon*")
 - (4) Timun (30 "*kurjon*")
 - (5) Beh (30 "*kurjon*") also called Terang. There is difference of status between the *kurjon* of one clan. For instance Ingtikathar (viz. pt. 12) ranks highest.
- (12) One source gave as his opinion that there was a traditional preference of *Ingti* to marry Timun-girls. Likewise Teron-men would prefer to take brides from Terang (=Beh). He himself belonged to *Ingti-Kathar* (Kathar is the *kurjon* from which come the chief-priests). His wife was *Teron*.
- (13) The royal clan is *Ronghang*. The chief "retcho" of the Mikir lives in Ronghang — Rongbong. Here lives also the chief-priest ("*kathar bura*"), who is one of his ministers.
- (14) *Amri*, *Rongkang*, *Chintong* are traditional divisions of unknown significance. They have nothing to do with the clan system. *Amri* is the region west of the Barpari-river, *Rongkang* and *Chintong* lay east of this stream, the first to the north, the other to the south-east. The *Rongkang* — *Chintong* area is also known as *Nilip*. It is difficult to hear any difference between "*Rongkang*" and *Ronghang*. Some Mikir even proved ignorant of any difference.
- (15) The Mikir speak of themselves as *Karbi*. The name Mikir is of unknown origin.
- (16) The terminology has no word for generation. Still the Mikir is able to distinguish eight generations.

<i>phu selet</i>	=FaFaFaFa	=P4—	generation (in the table)
<i>phu sar</i>	=FaFaFa	=P3—	do
<i>phu</i>	=FaFa	=P2—	do
<i>Po</i>	=Fa	=P1—	do
—	=ego	=E —	do
<i>sopo</i>	=So	=F1—	do
<i>supo</i>	=SoSo	=F2—	do
<i>su selet</i>	=SoSoSo	=F3—	do

- (17) The following statements were noted too :
- (1) "above 3 generations we have no relationship terms"
 - (2) the term *bong* is used in 3 generations
 - (3) the term *ni-men* is used in 3 generations.

These were heard only once. The second and third from the same informant, the first one from another person. None of these is corroborated by the recorded terms.

(18) male = *pinso*, *pinsu*

female = *arloso*

married couple = *penan-so*

to marry = *ka chie-en pa tang ho*.

Marriage is patrilocal, descent is patrilineal. Brother and sisters inherit equal shares. The eSo gets the house. There are no owner rights on land in Mikir-country.

(19) No person can call a senior by name whether male or female. Not investigated as whether there was agreement or discrepancy between natural seniors (i.e. by age) and traditional seniors (i. e. by status).

MIKIR KINSHIP TERMS

Relationship	Sir Charles Lyall		remarks
P2—generation			
FaFa	<i>phu</i>	<i>phu</i>	
FaMo		<i>phi</i>	
MoFa	<i>phu</i>	<i>phi-sar</i>	
MoMo		<i>phi-sar</i>	
P1—generation—patrilineal kin			
Fa	<i>po</i>	<i>opo</i>	
eFaBr	<i>punu</i>	<i>pesar</i>	
yFaBr		<i>punu</i>	
eFaSi	<i>pinu</i> (p. 20) <i>ni</i>	<i>ni-sar-pi</i>	
yFaSi	(p. 155)	<i>ni-sar-pi</i>	
eFaBrWi	<i>ni</i>	<i>pe (i)-sar</i>	
yFaBrWi		<i>pi-nu</i>	
eFaSiHu			
yFaSiHu		<i>lok, lok-he</i>	(esp. y FaSiHu?)
P1—generation—matrilineal kin			
Mo	<i>pei, pi</i>	<i>pei</i>	
eMoBr	<i>ong, niHu</i>	<i>ong-he</i> or	(term of reference- <i>hu-po</i>)
yMoBr		<i>ong-sar</i>	
eMoBrWi		<i>ning-he,</i>	
yMoBrWi		also <i>ni</i>	
eMoSi	<i>pinu</i>	<i>pinu</i>	or (<i>pe-sar</i> <i>arloso</i>
yMoSi			and <i>pinu</i> ,
			terms from another informant)
eMoSiHu'			<i>pe-sar</i>
yMoSiHu		<i>lok</i> (to another source ;)
			<i>punu</i>

P1—generation—affinal kin

WiFa	<i>hupo, onghai</i>	<i>hu-po, ong</i>	<i>hupo</i> =reference term
WiMo	<i>nipi, nihai</i>	<i>ni (pi)</i>	
HuFa	<i>lok-hai</i>	<i>lok-he</i>	
HuMo		<i>ni (pi)</i>	

E—generation—patrilineal kin

Br's + Si's	<i>kor</i>		
eBr	<i>ik</i>	<i>iek</i>	
yBr	<i>mu</i>	<i>bong</i>	
eBrWi	<i>tepi (m.s.)</i>	<i>tipi, tepi (m. s.)</i>	Br. (w.s.) = <i>chek le</i>
yBrWi	<i>neng (w.s.)</i>	<i>korpi-hei (m.s.)</i>	BrWi (w.s.) = <i>neng</i>
eSi	<i>ingjirpi (m.s.)</i> <i>te (w.s.)</i>	<i>ni</i>	
ySi	<i>mu</i>	<i>ni-men</i>	
eSiHu	<i>me, ingjir-arlo</i>		<i>tipo (w.s.) or tepo</i>
ySiHu	<i>korpo</i>	<i>mei (m.s.)</i>	<i>korpo (w.s.)</i>
eFaBrSo		<i>iek</i>	(ref. <i>pesar a sopo</i>)
yFaBrSo		<i>bong</i>	(ref. <i>punu a sopo</i>)
eFaBrDa		<i>ni (m.s.) , te (w.s.)</i>	
yFaBrDa		<i>ni-men (m.s.)</i> <i>bong (w.s.)</i>	
eFaSiSo		<i>mei (m.s.)</i>	
yFaSiSo		<i>mei-suk (m.s.)</i>	<i>tipo (w.s.)</i>
eFaSiDa			
yFaSiDa		<i>phili-pi (m.s.)</i>	w.s. not noted.

E— generation—matrilineal kin

eMoBrSo		
yMoBrSo		<i>ong-so</i>
eMoBrDa		
yMoBrDa		<i>kor-pi</i>
eMoSiSo		<i>iek</i>
yMoSiSo		<i>bong</i>
eMoSiDa		<i>ni (m.s.) , te (w.s.)</i>
yMoSiDa		<i>ni-men (m.s.)</i> <i>bong (w.s.)</i>

E—generation—affinal kin

Wi	<i>peso</i>	<i>pi-so</i>	
eWiBr	<i>ong-sc</i>	<i>ong</i>	
yWiBr		<i>ong-sar</i>	
eWiBrWi			
yWiBrWi		<i>ar-mo-pi, ni</i>	
eWiSi	<i>korpi</i>	<i>tipi or tepi</i>	age in relation to wife
yWiSi		<i>korpi</i>	
eWiSiHu			
yWiSiHu		<i>sai-du</i>	
SoWiFa			
SoWiMo			
Hu	<i>pengan</i>	<i>pe-nan</i>	
eHuBr		<i>tipo-he</i>	
eHuBrWi		<i>te-pi, te (w.s.)</i>	
yHuBr		<i>kor-po</i>	
yHuBrWi		<i>kor-po, bong (w.s.)</i>	
eHuSi		<i>neng</i>	
eHuSiHu		<i>ar-mo</i>	

F1—generation—patrilineal kin

So	<i>sopo</i>	<i>po</i>	
Da	<i>sopi</i>	<i>ni</i>	
SoWi		<i>mun-he (m.s.)</i>	this woman might be the <i>ni-</i> <i>a-men</i> too, but not necessary, comp. <i>lok-a-men</i> or <i>penan</i> so-and- so.
		<i>ni-men (w.s.)</i>	
DaHu	<i>osa</i>	<i>ossa (m.s.)</i>	
		<i>mun-pi (w.s.)</i>	
eBrSo	<i>ik-oso</i>	<i>po (m.s.)</i>	
yBrSo	<i>philipo</i>	<i>bong (w.s.)</i>	
eBrDa			
yBrDa	<i>philipi</i>	<i>pei</i>	
eSiSo	<i>osa, philipo</i>	<i>ossa (m.s.)</i> <i>(w.s.)</i>	also <i>lok-a-men</i> the "returned" <i>lok (=FaSiHu)</i>
eSiDa	<i>philipi</i>	<i>(a—) philipi</i>	
ySiSo	<i>osa, philipo</i>	<i>ossa (m. s.)</i> <i>so (w. s.)</i>	
ySiDa	<i>philipi</i>	<i>(a—) philipi</i>	

F, generation—affinal kin

WiSiSo	<i>ong-su</i> (k)
WiSiDa	<i>mun-he</i>
WiBrSo	<i>ong-su</i> (k) <i>onk-so</i>
WiBrDa	<i>ni-men</i> <i>mun-he</i>
HuSiSo	<i>ossa</i>
HuSiDa	<i>neng, mun-he</i> (?)
HuBrSo	<i>po</i>
HuBrDa	<i>pei</i>

*F*2—generation

SoSo	<i>supo</i>	<i>su-po</i>	grandchild= <i>su-mar</i>
SoDa	<i>supi</i>	<i>su-pi</i>	
DaSo	<i>supo</i>	<i>su-po</i>	
DaDa	<i>supi</i>	<i>su-pi</i>	
DaSoWi		<i>su-pi</i>	
DaDaHu		<i>su-po</i>	

DIGITAL PATTERN FREQUENCY AND SIZE VARIATIONS IN SOME CASTES OF UTTAR PRADESH

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Similarity between two populations, based upon a single criterion, does not necessarily imply that the two are closely related, whereas a highly significant difference does suggest that there is no close relationship. Dermatoglyphic traits, which are polygenically controlled and putatively non-adaptive, are no less important in such studies ; rather dermatoglyphics has distinct methodological advantages over either anthropometry or serology in clarifying the older and more basic relationships between human populations (Newman '60). Since dermatoglyphic configurations are established long before birth of the individual and do not alter due to age (except in size), and post-natal environmental influences, they can profitably be employed, and have been employed, in the study of populational variations.

Dermatoglyphics are highly variable, in the sense, that they vary not only from individual to individual but also from population to population (Rife '53) and thus, provide a tool of unique value for human population genetics.

Dermatoglyphic studies in India have been very few, and still fewer are on caste basis. Since castes in India are closed breeding units for the last two or three thousand years, and the inflow and outflow of genes has been restricted, they can very well be taken for small population variation studies within a district, a State or a geographic region. Here an attempt has been made to find out papillary pattern-type and size variations in some castes of Uttar Pradesh.

Material :

For this paper the finger prints of 701 male individuals¹ have been considered. The actual number of prints is higher than that observed here. Some of the prints have been excluded because of two main considerations :

- (i) Some of the prints were unsuited for the total number of ridge counts.
- (ii) Some of the castes, such as, Kurmi, Pasi and Chamar have a fair individual representation but not sufficient enough to be considered as an independent group. These castes would have affected the frequencies if put in the miscellaneous group.

This sample of 701 individuals includes 203 Brahmins, 114 Ahirs, 103 Rajputs, 100 Muslims and 181 heads of other miscellaneous Hindu castes, clean and unclean both. None of the individuals included here belongs to a State other than U.P.

Methods :

All those persons who willingly agreed were listed for finger and palm² printing. The name, age, sex, religion, caste and sub-caste of each individual was noted on the blank before taking the prints. The prints were obtained by simple ink method, rolling the fingers as suggested by Cummins and Midlo (1943).

Identification of patterns has also been done on the same lines. Lateral, central pockets and double loops have been counted as whorls, and loops with zero ridge-count as arches. Radial loops have been counted both separately and jointly (Renes '46). In double loops and whorls two counts were made—one from each triradius, and the higher count was noted to represent the size of the pattern. The general rules of ridge counting as given by Henry (1901) for loops, and Cummins and Midlo (1943) were used. Ridge counts were made with the aid of a standard magnifying lense.

The data :

In each caste group, the miscellaneous group and the Muslims, the pattern identification has been done for each finger in the right and left hands separately, and then the total percentile frequencies for each pattern calculated. The counts for the five fingers for both the hands put together have been obtained by adding the frequencies of the corresponding fingers of the two hands and then dividing it by two. The pattern frequencies for different castes, for the right and left hands separately, have been presented in tables 1—5. The composite picture of pattern distribution in all the groups for both hands has been shown in fig. i.

DISCUSSION

Finger-ball patterns :

In all the groups the highest concentration of whorls is, as usual, found in the fourth finger of both the hands, and the second place in this respect is occupied by the first fingers. The right hand, as usual, is richer in frequency than the left. The lowest percentage of whorls in the fifth fingers, in both the right and left hands, is noticed among the Brahmin only, whereas, the Miscellaneous has in its third fingers. The Rajput, the Ahir, and the Muslims have the lowest frequency in their third right and fifth left fingers—a mixed feature which is neither encountered in the Brahmin nor in the Miscellaneous group.

The highest concentration of loops in the Brahmin and the Rajput is noticed in the fifth fingers, closely followed by the third. The distance between the third and fifth fingers in the right hand, in both the groups, is further minimized when compared with the left. The Ahir and the Miscellaneous groups have the highest frequency of loops in their third right hand fingers only but the left follows the earlier pattern only in the Ahir—the Miscellaneous group having identical frequency. Among the Muslims, identical frequency is noticed in the right third and fifth fingers, whereas in the left, the fifth has the largest concentration. However, it is in-

interesting to note that the highest frequency is found in the fingers of left hands of all the groups.

Another important point worth noticing is that none of the groups present radial loops in their fifth and first fingers, with Rajput as the only exception for their first right finger. As a rule, the largest concentration of radial loops is found on the second fingers in both the hands without any single exception. Of all the groups the Muslim is the only one which presents radial loops in the second fingers only. The higher frequency of these is found in the second right fingers of the Rajput, the Ahir and the Muslim only, whereas, the Brahmin and Miscellaneous groups have in their left second fingers. The distance between the right and left hand frequencies, within a group, in the second fingers only, is considerable in the Rajput (R. 9.70, L. 5.83), the Muslim (R. 6.00, L. 3.00) and the Miscellaneous group (L. 7.18, R. 4.97). Comparatively it is minimized in the Ahir (R. 12.28, L. 11.46) and the Brahmin (L. 10.34, R. 9.95) being the lowest. An over all highest frequency of radial loops in both hands is noticed among the Ahir (R. 12.28, L. 11.46). The Brahmin occupies the second place (R. 9.95, L. 10.34).

The arches are distributed almost all over the fingers unlike the radial loops, with the exception of the Ahir, having zero frequency in the first and fourth of the right, and fifth finger in both the hands. However, zero frequency for the fifth finger is also noticed in the Rajput left and the Muslim right hands. Like radial loops, the highest frequency is obtained in the second fingers of both the hands, with an overall highest frequency (11.65) in the Rajput left hand, closely followed by the Ahir (11.40) in the same hand. When a comparison is made between the right and left hands of all the groups, the higher frequency is obtained in the second left fingers only. Similarly when all the five fingers of each hand are put together (right and left separately), the left maintains its lead over the right in the higher frequency of arches.

In mass analysis, right fingers typically present a larger number of whorls and radial loops than the left (Cummins and Midlo. '43) : the present data is quite in agreement except the Brahmin and the Miscellaneous group for the radial loops only. These two groups have a higher percentage of radial loops in their left hands.

A composite picture of pattern distributions for both the hands put together, reveals some interesting facts. The Brahmin and the Ahir show strikingly similar percentages of all types of patterns with only a slight deviation in arches, where the Brahmins have a higher value (3.48) than the Ahir (2.93). Similarly the Rajput and the Miscellaneous groups are very close in their frequencies except the arches. In this feature the distance between the two is enhanced (Rajput 4.18, Misc. 2.37) as compared to that between the Brahmin and the Ahir. The arch frequency is quite close between the Ahir (2.93) and the Miscellaneous group (2.37). However, in the frequency of arches, the Muslim (3.20) shows a closer resemblance to the Brahmin (3.48). The highest frequency of arches

TABLE I

Percentage Frequency of Patterns in Each Digit.

The Brahmin (203 males)

Digit	Right Hand			Total	A.	W.	Left Hand			Total	A.
	U.L.	R.L.	W.				U.L.	R.L.	W.		
I	39.41	—	57.64	39.41	2.95	46.31	50.25	—	—	50.25	3.45
II	39.61	9.95	43.55	49.56	6.89	38.44	41.38	10.34	—	51.72	9.84
III	74.38	—	22.66	74.38	2.96	36.50	68.37	0.40	—	68.77	4.73
IV	30.54	—	67.98	30.54	1.48	60.09	37.93	0.49	—	38.43	1.48
V	77.84	—	21.67	77.84	0.49	25.62	73.89	—	—	73.89	0.49
Total:	52.36	1.99	42.70	54.35	2.96	39.39	54.36	2.25	—	56.61	4.00

TABLE 2

Percentage Frequency of Patterns in Each Digit.

The Rajput (103 males)

Digit.	Right Hand.			Total	A.	W.	Left Hand.			Total	A.
	U.L.	R.L.	W.				U.L.	R.L.	W.		
I	33.01	0.97	64.08	33.98	1.94	49.51	47.57	—	—	47.57	2.92
II	29.13	9.70	53.40	38.83	7.77	46.60	35.92	5.83	—	41.75	11.65
III	64.08	1.94	28.16	66.02	5.83	32.04	60.19	—	—	60.19	7.77
IV	31.07	—	67.96	31.07	0.97	61.17	36.89	—	—	36.89	1.94
V	67.96	—	31.07	67.96	0.97	23.30	76.70	—	—	76.70	—
Total:	45.05	2.52	48.93	47.57	3.50	42.52	51.45	1.17	—	52.62	4.86

TABLE 3

Percentage Frequency of Patterns in Each Digit.

The Ahir (114 males)

Digit.	Right Hand			Left Hand		
	W.	U.L.	R.L.	Total	A.	W.
I	57.32	42.68	—	42.68	—	43.58
II	38.60	42.10	12.28	54.38	7.02	35.91
III	22.81	71.93	—	71.93	5.26	28.95
IV	71.05	28.07	0.88	28.95	—	55.26
V	35.96	64.04	—	64.04	—	24.56
Total:	45.15	49.70	2.63	52.40	2.46	37.65
				56.49	2.47	58.96
						3.39

TABLE 4.

Percentage Frequency of Patterns in Each Digit.

The Muslim (100 males)

Digit	Right Hand			Left Hand		
	W.	U.L.	R.L.	Total	A.	W.
I	67.00	31.00	—	31.00	2.00	57.00
II	46.00	42.00	6.00	48.00	6.00	48.00
III	32.00	64.00	—	64.00	4.00	38.00
IV	74.00	24.00	—	24.00	2.00	70.00
V	36.00	64.00	—	64.00	—	31.00
Total:	51.00	45.00	1.20	46.20	2.80	48.80
				47.00	0.60	47.60
						3.60

(4.18) is found among the Ahir and the lowest (2.57) among the Miscellaneous.

The largest percentage of radial loops (2.55) is found in the Ahir, closely followed by the Brahmin (2.12). In the descending order, the third place is occupied by the Rajput (1.85), fourth by the Miscellaneous (1.27) and last of all by the Muslim (0.90).

The Muslim appears to be somewhat a distinct group, presenting the whorl and loop frequencies different from others. The frequency of whorls (49.90) in this group is the highest and that of loops (46.90) the lowest. An overall picture of the position of different groups with regard to their pattern frequencies has been presented in the figure below.

Newman ('60) emphasizes the use of index of finger pattern intensity, and considers the use of more than one index an unnecessary duplication. Here this index has been calculated and presented in table 6 below.

Table 6 showing Index of Finger

Pattern Intensity

CASTES	RIGHT HAND	LEFT HAND	BOTH HANDS
Brahmin	14.98	13.54	13.76
Rajput	14.54	13.77	14.16
Ahir	14.27	13.43	13.85
Muslim	14.82	14.52	14.67
Miscellaneous	14.69	14.16	14.42

The table shows that the Brahmin and the Muslim have closer values in their right hand, and so have the Rajput and the Miscellaneous. The Ahir has the lowest value. The same position is maintained by the Ahir in the left hand also. However, this position is altered in the values of the left hands, and we notice that the Rajput and Brahmin are closer in their left hand values and so are the Muslim and the Miscellaneous. Considering the values, calculated for both the hands together, the Muslim has the highest value with Miscellaneous quite close to it. Third position is occupied by the Rajput. The Brahmin and the Ahir are very near to one another in this value.

When the data for whorl and arch frequencies of individual fingers of all the groups are plotted in the form of Poll's dactylodiagram (Cummins and Hansen '46), the result is a somewhat depressed and extended graph, more particularly in the case of the Muslim, whereas in others, there is a slight deviation from that of the Muslim.

The dactylodiagram (fig. 2) and per cent frequencies listed in tables 1—5 show that the Brahmin, the Muslim and the Miscellaneous conform to the rule of all pairs, whereas, the Rajput and the Ahir to the pair-group rule.

Size of Pattern :

The ridge-count reflects the size of the pattern which cor-

responds roughly with the type of pattern (Holt '49). If some significant diversity is noticed in the ridge-count, it can, on the basis of pattern frequency and size variation, possibly be stated that the groups considered here differ from one another in this polygenically controlled trait also. The result may further the cause of studies on caste diversities from the biological point of view and, therefore, a quantitative analysis has been attempted here.

The total ridge-count for each individual was found by adding the individual ridge-counts of the ten fingers. Fig. 3 (A-E), shows the distribution for all the five groups considered in this study. The range of variation for all the groups lies between 45 and 240 ridges. For different groups, i.e. the Brahmin, the Rajput, the Ahir, the Miscellaneous and the Muslim, the ranges are from 74-215, 67-213, 80-223, 45-233 and 114-222 respectively. All these groups are characterized by the fact that there is no single individual with a count of 0-44. Among these groups, the Miscellaneous shows the largest range and the Muslim the least. The minimum count of 114 in the Muslim surpasses the minimum figures of all the groups, whereas, the Miscellaneous which gives the maximum count of 233 is also characterized by the minimum count of 45.

The whorls on the whole have a higher count than loops, consequently the distribution of ridge-counts for each finger is also different. The larger counts are limited to first and the fourth fingers where the whorls are commonest, but the largest count is obtained in the first fingers of all the groups except the Muslim which has in its fourth. Thus, it is only in the Muslim that the highest percentage of whorls (in all the five fingers within the groups) coincides with the largest count in the same fourth fingers of both the right and left hands.

The frequency of zero counts (arches) is greatest on second fingers, closely followed by the third in all the groups.

Table 7.

Mean Values and Standard Deviations of Ridge Counts for Different Groups.

	M. with S. E.	S. D. with S. E.
Brahmin	145.30 \pm 2.75	39.20 \pm 1.95
Rajput	146.66 \pm 4.10	41.60 \pm 2.90
Muslims	161.00 \pm 3.15	31.50 \pm 2.23
Ahir	149.74 \pm 3.43	36.70 \pm 2.43
Miscellaneous	142.99 \pm 2.50	33.70 \pm 1.80

Looking at the mean values (table 7), the Muslim (161.00 \pm 3.15) presents the highest figure, whereas the Miscellaneous (142.99 \pm 2.50) has the lowest. The Ahir the Rajput and the Brahmin with the values 149.74 \pm 3.43, 146.66 \pm 4.10 and 145.30 \pm 2.75 respectively, can, thus, be placed in the descending order. However, the Muslim has the highest value, far removed from others, and appears to be a distinct group from the rest.

In the table below, the calculated values of *t*—statistic have

been obtained to make valid comparisons between different caste groups. The character observed is the quantitative value of patterns.

Table 8. Showing the Calculated values of t .

Groups	Brahmin	Rajput	Muslim	Ahir
Brahmin				
Rajput	.48			
Muslim	1.71	1.95		
Ahir	.35	.92	1.10	
Misc	1.47	1.74	.54	.72

At 10% level of significance for large sample, the value of t is 1.645. Here the calculated values of t between the Muslim and the Brahmin (1.71), the Muslim and the Rajput (1.95) and the Rajput and the Miscellaneous (1.74) are significant, and therefore, it can be said that there exists a marked difference between the groups mentioned above. The calculated value of t between the Brahmin and the Miscellaneous (1.47) is not significant, but its high value is almost in the close vicinity, and therefore, it can be taken as a signal for further investigation.

The value of t between the Brahmin and the Ahir is pretty low and an insignificant one. Here, I do not intend to convey that they are close to one another on this account, but it is worth noticing that the quantitative analysis does not challenge the previous suggestion that the two groups are quite similar in the distribution of pattern types (see fig. 1). This observation corroborates the findings that the Ahir appear to be nearest to the Brahmin on the basis of anthropometric evidence (Majumder, '58). Muslim on the other hand does not agree with any of the groups, neither in frequency of patterns nor in the pattern size, though in their anthropometric characters Muslims are very close to Kshatriyas (Majumdar, '58).

SUMMARY

The data of 701 individuals has been analysed on the basis of castes and thus five groups obtained, i.e. the Brahmin, the Rajput, the Ahir, the Miscellaneous (including various intermediary and low castes) and the Muslim which does not fall into the Hindu fold.

In the analysis of the pattern frequencies, the Brahmin and the Ahir present strikingly similar percentages. Similarly the Rajput and the Miscellaneous appear to be close to one another. The Muslim seems to be a distinct group.

In case of the index of finger pattern intensity, the Muslim presents the highest value. The index supports the nearness between the Brahmin and the Ahir.

The Brahmin, the Muslim and the Miscellaneous groups conform to the rule of all pairs, whereas, the Rajput and the Ahir to the pair-group rule.

The mean value of ridge-counts is highest for the Muslim and in this feature the group is far removed from the rest of the groups and has the largest pattern size on the average.

The value of t between the Brahmin and the Muslim, the Muslim

and the Rajput and the Rajput and the Miscellaneous is significant and, therefore, there exists a difference between these groups.

NOTES

1. The data were collected from a jail in U. P. A part of the prints was collected by Sri B. K Verma.
2. The study of palmer configurations will be published elsewhere.

ACKNOWLEDGEMENT

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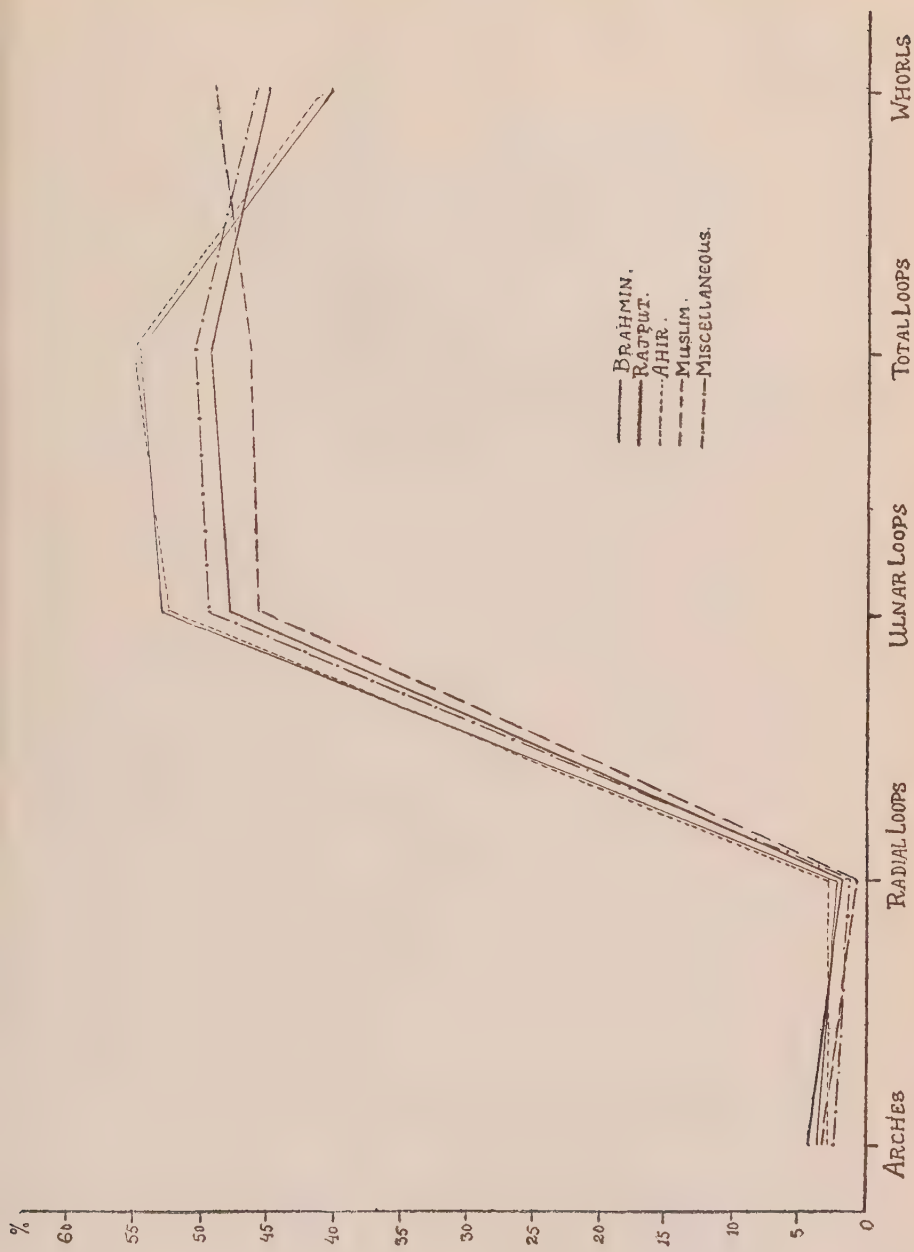


Fig. 1. Showing the frequencies of pattern types for both the hands considered together in all the five defferent groups.

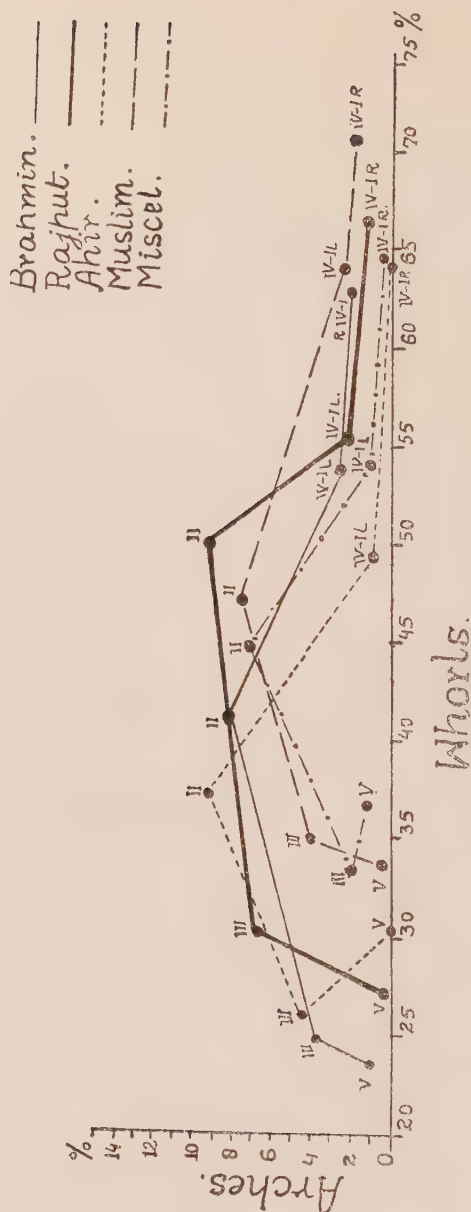


Fig. 2. A dactylodiagram (Poll's method) of the fine groups considered here. Digit by digit (for each group) the frequencies of whorls are plotted against the frequencies of arches. The curve is drawn through the successive points representing mean values for the five couplets of digits in each group. ("pairs", V, III, II; "groups" IV-I left and IV-I right),

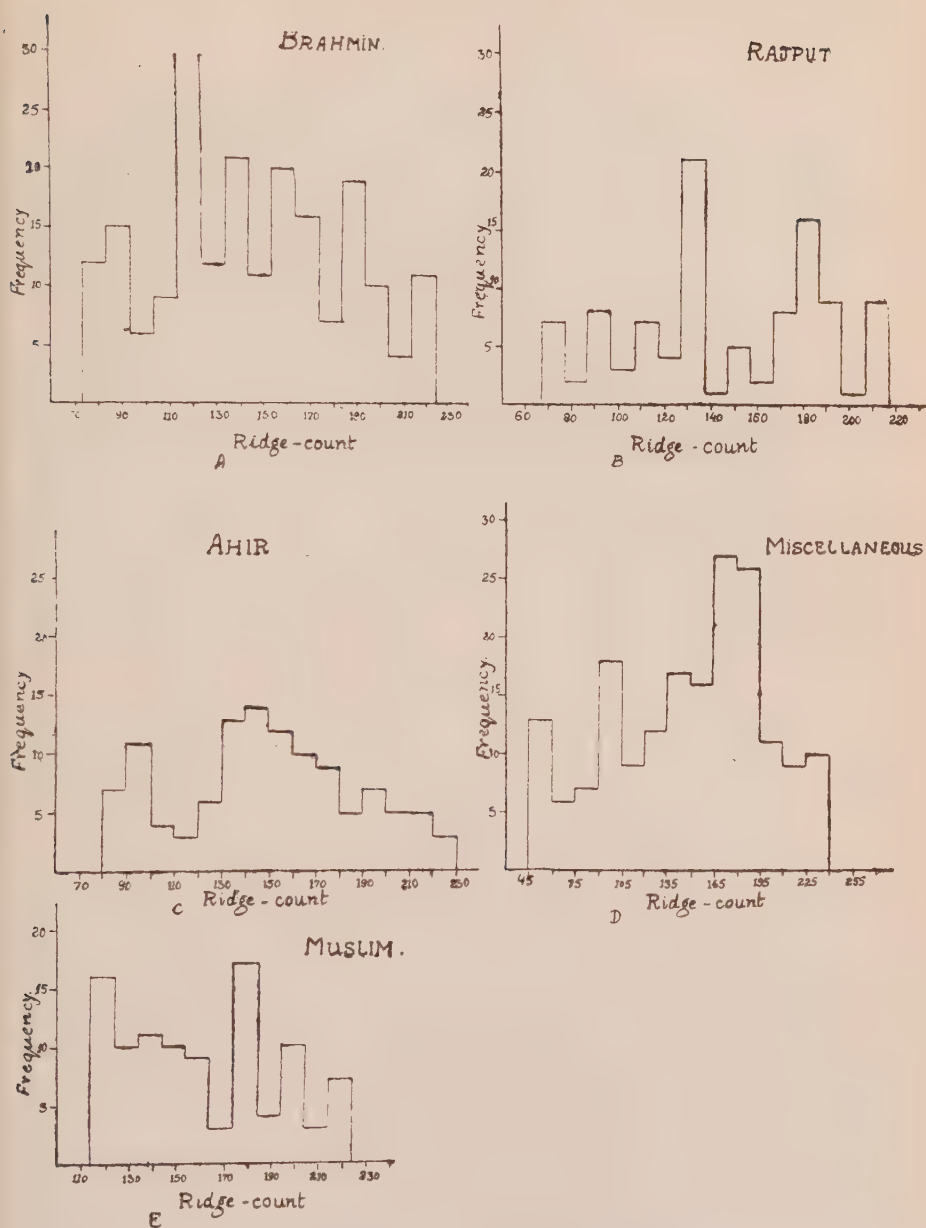


Fig. 3. (A—E) The distribution of total ridge-counts for five different groups.

MIDDLE-PHALANGEAL HAIR AMONG RAJBANSHIS OF MIDNAPUR, WEST BENGAL

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Danforth (1921), for the first time, took an interest on the distribution of hair on the middle segment of the fingers in man and pointed out that the frequency of individuals possessing middle-phalangeal hair is different in different populations. Since then several authors have reported on the distribution and inheritance of middle-phalangeal hair.

The Rajbanshi studied by the author is a fisherman-caste (Scheduled) of Midnapur District of West Bengal. The sample for the present study, undertaken during January-April, 1960, was taken from several villages under Mahishadal P. S. 284 male Rajbanshis were examined for the presence or absence of hair on the middle segment of digits II to V. According to the census of 1951, there are 26,087 male Rajbanshis in Midnapur.

Observation was taken with the help of an illuminated magnifier (torch type). The actual number of hairs was counted, but more than 5 hairs was recorded as 'plenty'.

Table I below shows the distribution of middle-phalangeal hair among 284 male Rajbanshis :

TABLE I

Distribution of middle-phalangeal hair among 284 male Rajbanshis :

No. of Subjects	No. with m.p.h. on both hands		No. with m.p.h. on Rt. hand only		No. with m.p.h. on Lt. hand only		Total No. with m.p.h.		No. without m.p.h.	
	abs. No.	%	abs. No.	%	abs. No.	%	abs. No.	%	abs. No.	%
284	91	32.04	15	5.28	17	5.99	123	43.31	161	56.69

Of 284 Rajbanshis, only 123 (43.31%) possessed middle-phalangeal hair in one or more fingers and 161 (56.69%) showed total absence of hair from the middle segments of all the fingers.

In analysing the data digit-wise and side-wise it is found (Table 2) that, in case of right hand, hair was present on the middle segment of the 2nd finger in 3 cases (1.05%), on that of the 3rd finger in 55 cases (19.36%), of the 4th finger in 103 cases (36.27%) and of the 5th finger in 14 cases (4.92%). The figures for the corresponding fingers of the left hand are 2 (0.70%), 54 (19.0%), 105 (36.97%) and 16 (5.63%). The result can be presented in a more clarifying way as follows :

	In case of right hand	In case of left hand
Of all fingers	1.7% were 2nd fingers.	1.1% were 2nd fingers.
possessing middle-phalangeal hair :	31.4% were 3rd fingers.	30.5% were 3rd fingers.
	58.8% were 4th fingers.	59.3% were 4th fingers.
	8.0% were 5th fingers.	9.0% were 5th fingers.

It is thus clear that digit IV has the maximum frequency of middle-phalangeal hair and digit II, the least. Digit III comes second in order of frequency of middle-phalangeal hair and digit V bears middle-phalangeal hair more frequently than digit II. No appreciable bimanual difference in the distribution of middle-phalangeal hair is noticed.

TABLE—2

Distribution of middle-phalangeal hair on right and left hands separately :

Finger & Side	Absent		Present				Total		
	abs. No.	%	Scanty abs. No.	%	Plenty abs. No.	%	abs. No.	%	
II	Rt	281	98.94	2	0.70	1	0.35	3	1.05
	Lt	282	99.29	0		2	0.70	2	0.70
III	Rt	229	80.63	34	11.97	21	7.39	55	19.36
	Lt	230	80.98	33	11.62	21	7.39	54	19.01
IV	Rt	181	63.73	65	22.89	38	13.38	103	36.27
	Lt	179	63.02	65	22.89	40	14.08	105	36.97
V	Rt	270	95.07	10	3.52	4	1.40	14	4.92
	Lt	268	94.36	13	4.58	3	1.05	16	5.63

Scanty=1 to 5 hairs. Plenty=6 or more hairs.

Table 3 below shows the distribution of middle-phalangeal hair according to various combinations of finger. While absence of middle-phalangeal hairs from all the fingers is the most frequent condition (Rt = 62.68%, Lt = 61.97%) among the Rajbanshis they almost invariably occur on the 4th finger whenever they are present in a hand. Out of 106 subjects possessing middle-phalangeal hair in the right hand the 4th finger bears it in 103 instances, exclusively in 51 subjects, in combination with 3rd finger in 36 subjects, in combination with 2nd & 3rd fingers in 2 subjects, in combination with 3rd & 5th fingers in 13 subjects and in combination with 2nd, 3rd and 5th fingers in 1 subject. Out of 108 subjects bearing middle-phalangeal hair in the left hand it occurs in the 4th finger in 105 instances, exclusively in 50 subjects, in combination with 3rd finger in 38 subjects, in combination with 2nd & 3rd fingers in 1 subject, in combination with 5th finger in 4 subjects, in combination with 3rd and 5th fingers in 11 subjects and in combination with 2nd, 3rd and 5th fingers in 1 subject.

TABLE 3

Distribution of middle-phalangeal hair according to various finger-combinations :

Present on (finger combinations)	RIGHT HAND		LEFT HAND	
	abs. No.	%	abs. No.	%
2, 3, 4 & 5	1	0.35	1	0.35
3, 4 & 5	13	4.58	11	3.87
4 & 5	0	0.0	4	1.41
2, 3 & 4	2	0.70	1	0.35
3 & 4	36	12.68	38	13.38
4 only	51	17.96	50	17.60
3 only	3	1.06	3	1.06
None	178	62.68	176	61.97
Total	284		284	

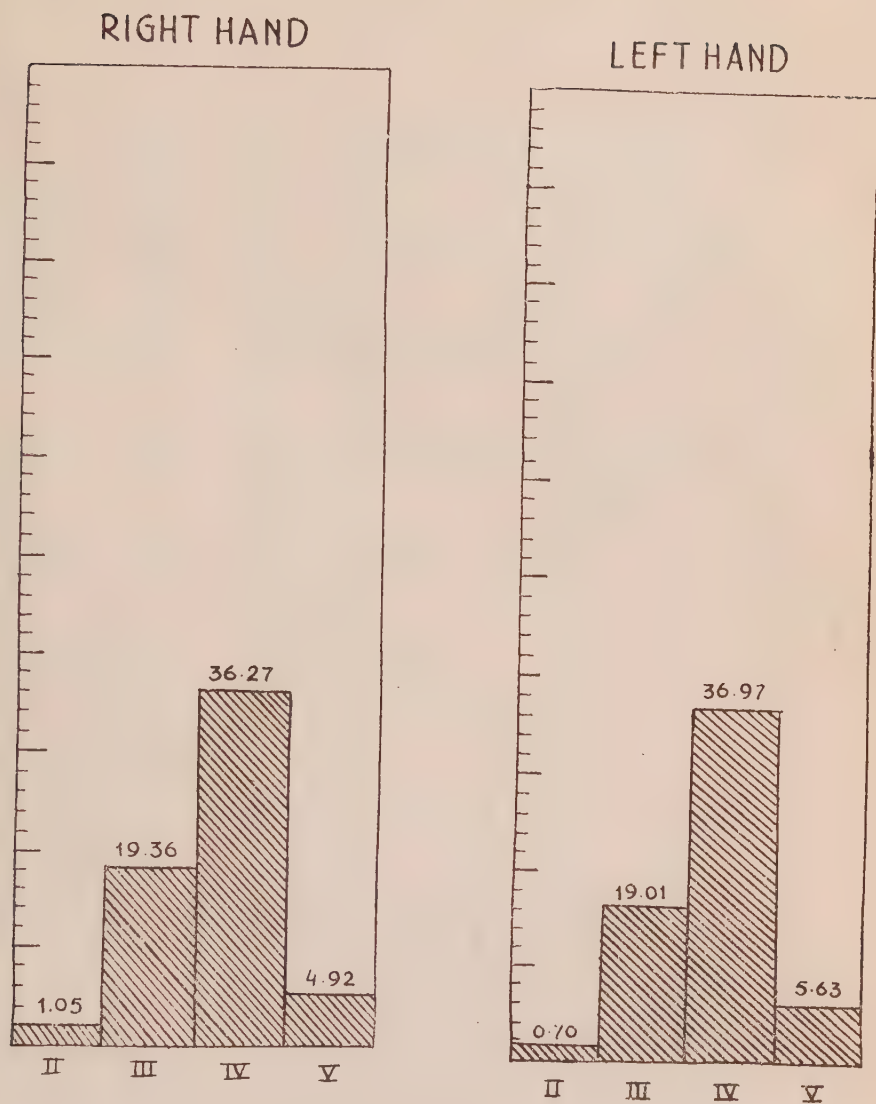


Figure 1. Diagrams showing relative distribution of middle-phalangeal hair on the four digits (II to V) of right and left hands of 284 male Rajbanshis. Values indicate percentage of fingers having middle-phalangeal hair.

TABLE 4

Distribution of middle-phalangeal hair among various populations.

Group	Sample size	Author	None	4th	Present on (finger combinations)					
			%	%	3rd & 4th	4th & 5th	3rd, 4th & 5th	2nd, 3rd, 4th & 5th	2nd, 3rd, 4th & 5th	other combinations
White Soldiers (males)—Left hands	442	Danforth (1921)	29.6	20.1	15.6	1.6	26.9	5.2	0.9	
White Civilians (males)	180	Do	38.9	15.6	18.3	2.8	20.6	3.3	0.5	
Coloured males	74	Do	83.7	6.8	1.4	4.0	1.4	0.0	2.7	
Japanese Sailors (males)	25	Do	68.0	8.0	16.0	0.0	8.0	0.0	0.0	
Indians (?) (males & females combined)	250	Chopra ¹ (1953)	75.2(188)	6.4(16)	7.2(18)	—	5.6(14)	1.6(4)	0.8(2)	
Mohyal Brahmins (India)—(males) :	71	Singh and Datta (1955)								
Right hands	—	—	58.0	14.0	9.8	4.2	12.6	0.0	1.4	
Left hands	—	—	63.6	8.4	4.2	5.6	15.4	0.0	2.8	
Indians (mals) (Gauhati, Assam)	250	Pakrasi and Das ² (1956)								
Right hands	—	—	56.8(142)	8.4(21)	16.4(41)	1.2(3)	13.2(33)	0.8(2)	3.2(8)	
Left hands	—	—	55.2(138)	11.2(28)	15.2(38)	0.4(1)	14.8(37)	0.8(2)	2.4(6)	

(India) : 430 Mavalwala³ (1957)

Right hands
Left hands

Rajbanshis

(Midnapur) :

Right hands
Left hands

Present Study

1. Percentages are calculated by the present author from absolute numbers, given in brackets. The total does not come to 100 as Chopra has not accounted for 8 individuals (3.2%).
2. Percentages are calculated by the present author from absolute numbers, given in brackets, on the basis of the total number of individuals (250).
3. There appears to be a little discrepancy in the percentage values for left hands given by Mavalwala as the total falls short of 100 by 1.33.

	30.77	17.76	17.46	0.59	25.15	5.02	3.25
	32.10	16.28	19.82	1.18	21.90	5.33	2.06
	62.68	17.96	12.68	0.0	4.58	0.35	1.76
	61.97	17.60	13.38	1.41	3.87	0.35	1.41

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ABILITY TO SMELL SOLUTIONS OF SODIUM CYANIDE

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Simpler tests are being discovered for nonantigenic characters in anthropological investigations. The ability to smell cyanide is one of the nonantigenic traits, for which Kirk and Stenhouse (1953) have devised the test. They have reported that some individuals cannot smell cyanide, and that this deficiency is probably a sex-linked Mendelian recessive trait. Family studies conducted by them among the Australian Europeans, supported in general this view.

It will be of interest to know the frequency of this trait among the Indians. The author could get an opportunity to do the test among the students of Lucknow University, during 1960-61. The method of testing was that of Kirk and Stenhouse, but instead of potassium cyanide, solutions of 20 per cent sodium cyanide were used. Out of 256 individuals, 99 were males, and 157 were females. These individuals come from different parts of Uttar Pradesh.

RESULTS

TABLE. 1.

Frequency of smellers and non-smellers

Sexes	Total	No.	Smellers	Non-smellers	
			%	No.	%
Male	99	82	82.82	17	17.17
Female	157	148	94.26	9	5.73
Total	256	230	89.84	26	10.04

It was found that 17 out of 99 males (17.17%), and 9 out of 157 females (5.73%) were unable to smell sodium cyanide solutions (table 1). The average frequency of non-smellers is 10.04 per cent, obtained from the pooled sample. There is a striking difference between the sexes in the incidence of non-smellers ($\chi^2 = 8.49$, 1 d. f. $P < 0.01$). The average frequency of non-smellers (10.04%), is in marked contrast to the deficiency of inability to taste phenylthiocarbamide, which is 34.88 per cent (Srivastava, 1959) in U. P.

TABLE 2.

Frequency of smellers and non-smellers in different social groups.

Groups :	Total	Smellers		Non-smellers	
		No.	%	No.	%
Brahmins	50	43	86.0	7	14.0
Kshattriyas	27	22	81.48	5	18.51
Vaishas	48	41	85.41	7	14.58
Kayasthas	29	29	100.0	—	—
Khattris	18	17	94.44	1	5.55
Muslims	13	12	92.30	1	7.68
Miscellaneous	71	66	92.95	5	7.04

The 256 individuals have been further classified into different social groups (table 2)—Group "Miscellaneous", includes Christians, Bengalis, Punjabis, Chamars, and Kurmis. Size of the sample for these various social groups is small, however, in any event, it seems proper to have some information on the incidence of non-smellers. As such the frequency of non-smellers has been calculated, which is noted against each group.

TABLE 3.

Frequency of smellers and non-smellers in different populations of the world.

Population	Sex.	Total	Smellers		non-smellers		Author
			No.	%	No.	%	
Australian	Male	132	108	81.8	24	18.20	Kirk and Stenhouse (1953)
Europeans	Female	112	107	95.53	5	4.46	
	TOTAL	244	215	88.11	29	11.88	
Africans	Male	71	53	74.60	18	25.40	Allison (1953)
	Female	—	—	—	—	—	
	TOTAL	71	53	74.60	18	25.40	
Indians	Male	99	82	82.82	17	17.17	Present Author
	Female	157	148	94.26	9	5.73	
	TOTAL	256	230	89.84	26	6.4	

The results obtained in the present study are in conformity with those achieved by independent observers (table 3), as regards the probable recessive nature of sex-linkage in the case of the cyanide-smelling deficiency character. We know that men differ widely in their genetic constitutions, and as such the above observations (table 3), confirm that genic polymorphism in respect to cyanide-smelling deficiency is met in man. As far as the frequency of non-smellers is concerned, outside India, the U. P. population under consideration, seems to correspond to Australian European, rather than African ones.

SUMMARY

256 students of Lucknow University were tested for their ability to smell solutions of sodium cyanide. The average frequency of non-smellers was found to be 10.04 per cent, and a marked difference between the sexes in the incidence of non-smellers was also noticed.

ACKNOWLEDGEMENT

The author is thankful to Mr. R. Singh and Km. K. Krishna, for their help in conducting the enquiry.

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A WORLDWIDE GAME AND AN INDIAN LEGEND

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That the play of children often mirrors the activities of adult life is, of course, a fact well known even to one only slightly familiar with the field of games. There are, for example, games mimetic of courtship, of warfare, of death and burial, of farming and other occupations, of religious ceremonies, etc. One of the most interesting and most widely played divisions of this type is the group of games imitative of judicial procedure. In its most complete form, a game of this kind contains the following elements: the committing of the crime, the accusation, the conviction, the pronouncing of sentence, and the punishment. The crime may be the breaking of some rule of the game being played or the failure to perform some action which all (or most) of the other players have performed. Accusation and conviction are usually lacking, since the infraction of a rule or the non-performance of an action is rather obvious and hence the offender stands self-convicted. Sentence is pronounced by a "judge," chosen before the game begins, and there is no appeal from it. Trial by jury does not appear. The punishment, the severity of which varies according to the whim of the "judge," is inflicted by another previously designated player.

Although games of this general character are to be found among practically all peoples,¹ the type appears to be best represented in Germany and Switzerland². In one German game the *dramatis personae* are a king, a judge, an accuser, an executioner, and a thief. These roles are assigned by the process of drawing lots. The game is made the more exciting by the fact that the accuser does not know the identity of the thief, and, if he makes an error, must pay the penalty in his stead. The judge submits his verdict to the king for confirmation or rejection. If it meets with the latter's approval, it is duly carried out by the executioner. In a Swiss game of this type, the thief tries to escape punishment by running away. When caught, he is forced to kneel and his head is immediately struck off with the edge of a board.³

It is noteworthy that these games take us back in time to a period in which the decree of the "king" ("judge") was irrevocable and the punishment carried out with rigorous severity. The concept of republicanism is foreign to the world of children's play.

How old is this type of game? We learn from Plutarch that Cato the Younger (95-46 B. C.) was so moved by the cries of a child condemned to imprisonment by a tribunal of his peers that he insisted on rescuing him as soon as the sentence had been imposed. Actually, however, the type appears much earlier in a legend concerning Chandragupta.⁴ According to this legend, Chandragupta as a baby was abandoned in an earthen jar at the thresh-

hold of a cowshed. Here he was discovered a short time later by a herdsman, who took him home with him and became his foster father. One day when playing a game of *High King in the Judgment Seat*, the young Chandragupta ordered that the worst offenders should have their hands and feet cut off; then, at his word, the amputated members immediately returned to their places. A passing prince who witnessed the miraculous game bought the child for a thousand harshapanas and later discovered that he was a Maurya.

Notes

1 Sentencing and punishment are often a part of games of dexterity such as the Arabic *izzaradi* (Knut L. Tallqvist, *Arabische Sprichwörter und Spiele*, pp. 193-140, No. 17). Here, the players procure a ring and then seat themselves in a circle. One of them takes the ring, throws it up into the air from the palm of his hand, and lets it fall on the back. Then he tries in the same manner to catch the ring on the forefinger or the little finger. If he catches it on the former, he is "king" and makes a whip, which he holds in his hand. Then another boy plays and tries to catch the ring on the little finger. If he succeeds, he is "wezir" and beats with the "king's" whip those players who have been unable to catch the ring. If, later, another player catches it on his forefinger, the first "king" turns over the whip to him; the same is true of a player who catches the ring on his little finger (i.e. becomes the new "wezir"). Those who fail to catch the ring are given 10 or 20 strokes (at the "king's" discretion). See also Henry H. Jessup, *The Women of the Arabs*, p. 319.

The Moroccan *ferda*, played on the seventh day following a marriage, is similar (A. Bel, "La Population Musulmane de Tlemcen," *Revue des Etudes Ethnographiques et Sociologiques*, IX-X, 428). Each of the players, the groom and his male friends, in turn places the groom's yellow slippers sole to sole and tosses them into the air. If both soles strike the floor, the thrower is *colten*; if both are up, he is *ouzir* (vizier). If one sole is up and the other down, the thrower is a *sereq* (thief). When the slippers thrown designate a new sultan or a new vizier, those take the places of their predecessors so that at length there are left only one sultan, one vizier, and the thieves. Pointing to each of the latter in turn, the vizier asks: "Chhal istabel ya-l-melik?" ("How many blows does he deserve, O King?"). When the sultan has made his decision, the vizier gives this number of blows on the palm of the thief's hand with one of the slippers.

2 For an admirable treatment of the type, see Eberhard Frh. von Kunssberg, "Rechtsbrauch und Kinderspiel, Untersuchungen zur deutscher Rechtsgeschichte, und Volkskunde", *Sitzungsberichte der Heidelberger Akademie der Wissenschaften* (Heidelberg, 1920); *Rechtliche Volkskunde* (Halle/Saale, 1936); S. Meier, "Alter Rechtsbrauch im Bremischen Kinderspiel," *Festschrift zur Vierhundertjahrfeier des alten Gymnasiums zu Bremen*.

3. Decapitation and whipping seem to be the usual penalties. In the case of very young children, the temporary confiscation of their toys is sometimes substituted for a physical punishment.

4. A number of legends have attached themselves to the name of Chandragupta II (fourth century B.C.), founder of the Hindu Maurya dynasty. One of the most surprising of these has him dying a pious Jain.

A NOTE ON THE CONCEPT OF SEXUAL UNION FOR SPIRITUAL QUEST AMONG THE VAISHNAVA PREACHERS IN THE BHUMIJ BELT OF PURULIA AND SINGBHUM

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The concept of sexual union for spiritual quest '*rati sadhan*' plays an important part in the spread of Vaishnavism among the Bhumij of Purulia and Singbhum districts. One of the major arguments with which the Vaishnava preachers elicit response from the Bhumij is that their cult possesses the hidden secret of enjoying sex without any exhaustion due to seminal discharge. It is said that semen (*Bastu* or *Birya*) is the source of spiritual power in man and its loss through discharge not only leads to physical decay but to loss of spiritual power. Such a negative puritanical approach alone would not convince the tribal Bhumij whose traditional philosophy of life has no place for asceticism. The complimentary point presented by the Vaishnava preachers is, however, very heartening to the Bhumij : that it is possible to attain great heights of sexual pleasure without seminal loss if one is initiated to the secret cult of *rati sadhan*. As visible embodiments of this cult these Vaishnava preachers always move with their spiritual consorts, known as *matas*, with whom they enjoy sexual intercourse without conception. In the village of Madhupur in Chandil Police Station, between 1897 and 1928, nearly a dozen Bhumij were drawn to practise this cult by two Vaishnavite Sadhus, who were staying in their village with their spiritual consorts (Sinha 1959 : 13-14). We were told that out of them only two succeeded in attaining their goal, as they had no children even up to old age. Out of those who failed in the effort, one gave us the following version of the cult of *rati sadhan*.

"*Bastu* or *birya* is generated inside the body of a man and *rati* is generated in the body of the female after the intake of food. Food is converted into blood and from the blood itself is generated *birya* and *rati*. The circulation of *birya* and *rati* all over the body depends upon the phase of the moon. *Birya* is also known as *ojo* and *ojo* is regarded as *brahmabastu* by the saints. As soon as a male becomes aware of the existence of a female, his *birya* elements get excited and begin moving. The same is the case with the female when she becomes aware of the presence of a male. As Lord Kamadeva was attached to his wife goddess Rati so is the human male attached to his wife. The symbol of Kamadeva is the human fallus, *linga* and of Rati the vagina *yoni*. The friction of fallus and vagina results in the discharge of *birya* and *rati* inside the vagina. *Birya* being the more powerful element, rushes forth in great speed and mixes with *rati* inside the vagina. A good part of the male *birya* is unfortunately wasted as it comes out of the vagina after

the sexual act of *rati sringar*. The Sadhus concerned with the spiritual training of the body place a good deal of importance to saving this wastage of vital *biryā*. They therefore prescribe that efforts are to be made to draw inside the channels of the penis the vaginal discharge or *rati* of the female. This not only prevents the outflow of *biryā* but also leads to gaining additional power by absorbing the vital vaginal discharge of the female. A person who attains this quality becomes immensely powerful and gains unlimited youth and thereby he becomes a real Sadhu. By repeatedly indulging in sexual union with their spiritual consorts in the above manner, the Sadhu attains his spiritual salvation, just as Lord Krishna had ecstatic union with his beloved Radha. The heart of such a Sadhu is ever full of joy. He sings *jhumur* songs depicting the celestial love of Lord Krishna and Radha to the accompaniment of *gupijantra* stringed instrument. This is why the Sadhus regard *biryā* as the same as *Brahma Bhagaban*. *Bhag* means *yonī* or vagina and *ban* means *linga* or penis ; that is why the word *Bhagaban* (or Supreme Being) actually means whole heartedly enjoying the *bhag* or vagina with *ban* or penis."

The person offering the above information admitted his failure in attaining the requisite state of physical control. However, he still believed that it was possible to reach that state and that it was quite worthwhile to make efforts in that direction.

* * * * *

A few *Jhumur* songs indicating the impact of sensuous spiritual cult of Vaishnavism have been given below in free translation :

(1)

It was in her dreams
That Bidhumukhi saw Lord Krishna
Lord Shyam was lying on the cot.
She was roused from her slumber
And then she got up
Her breast became wet in tears of joy
(Seeing her Lord Shyam).
Then the arms were interlaced
And all the eight parts of body were pressed
The mouths met
And they were mad with celestial joy.
(The poet) Binandia implores :
Calm down your passions
In spiritual knowledge and meditation
In rituals and in chants.

(2)

I rest my eyes on the roadside
My eyes know no sleep
I keep awake in expectation, my beloved :
I can no longer sleep.
Now I get angry

And would like to scold you
 There you come
 I forget everything in joy.
 I make the garland with such care
 I make it with such care, oh my beloved !
 I keep it hanging just for your coming
 I keep it only for you.
 With a smiling face
 I shall sit on your lap
 With such caresses I shall sit on your lap
 I shall hold your neck with such tenderness.
 What do I care for ?
 If I get your love
 Just tell me once my beloved
 Tell me that you are wholly mine.
 Alas, you did not care to come and console my heart
 So says (poet) Ramkrishna
 All my heart's dreams have come to nought
 My life has come to nothing.

(3)

Listen my friend,
 Listen to my sad plight
 So much did I desire
 I would unite with the beloved one.
 With so great a craving
 I placed my bed on the floor
 So much did I desire
 The meeting of the two clever ones.
 He has roused such great passion in my life
 I can bear it no more
 My ribs are aching in pain
 I can bear the separation no more.
 What do I know where to go and what to do
 I get no rest in my own house
 What magic has he played
 I can rest no more in my home.
 (The poet) Rai Hariram implores :
 Do not burn my life any more
 Now that you have opened the door
 Push me no more adrift.

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BRIEF COMMUNICATION

Surendra Kumar Navlakha, "The Authority Structure among the Bhumij and Bhil: A Study of Historical Causations", in a recent number of this journal, (XIII: 1: 27-40), presented some interesting contrasts in the development of government by two quite different peoples, one at the east and one at the west end of the Vindhya Range. His aim is "to review the pattern of culture and social organization in the continuum of time and to find a logical explanation," which is certainly a praiseworthy objective. But while the author attempts a historical interpretation, his essay is marred by lack of what American anthropologists—often not being masters of the English language—like to call "time depth." In Vedic times the native ancestors of the Bhils were called Dasyus, in epic times Nisadas, and their language is probably still preserved in Nahali, as I set forth at the beginning of my *Ethnography of Ancient India* (Wiesbaden, 1954), pp. 8 ff. They had been practically enslaved as Sudras by their white Aryan masters, and have been fleeing to the hills, the forests, and the desert for the last two to three thousand years. They were probably always against the government, no matter whose, because the government was always against them. I found no evidence in Indian literature that they had ever a unified, strong government. In epic times, they seem to have consisted of small tribes each under a chieftain. This was not, then, a change occurring in the 16th century, as the author infers. In making this criticism, I shall observe the historical approach, and state that I do not consider the omission of data on ancient times as willful on the part of the author, but due to the condition of the libraries of India which, while they offer unsurpassed opportunities for studying Sanskrit or Pali manuscripts, cannot afford to buy all the latest research works of the west, even when on India. So one can only admire the author's industry in the face of difficulties.

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BOOK REVIEWS

THE LIGHT CONTINENT BY U. R. EHRENFELS. BOMBAY : ASIA PUBLISHING HOUSE, 1960. PAGES : xvii+192. PHOTOGRAPHS AND MAPS. PRICE : Rs. 14.00.

Of the anthropologists in-charge of teaching and research in the various University Departments in India, Professor Ehrenfels, who has been Professor of Anthropology at the University of Madras since 1949, is the only representative of the Continental (Vienna) School. The research interests and the theoretical view-points of the Continental anthropologists have been in many ways distinct from those of their British, American and Indian colleagues. It would seem that Dr. Ehrenfels' researches in India have been to a considerable extent influenced by his training in Austria. Thus his first publication on India to appear in English—*The Mother-right in India*, 1941—was an attempt to establish a hypothetical theory regarding the one-time prevalence of Mother-Right all over India.

The publishers' blurb tells us that he has 'pursued extensive comparative field researches among matrilineal societies in Assam and Kerala.... In 1957 he was awarded the undivided scholarship of the Elin Waegner Foundation, Stockholm, for research in matrilineal systems and the changing position of women in East Africa.'

Professor Ehrenfels spent a year in East Africa, and has written a book about his experiences. It is not a monograph ; there is little about it which is scholarly. It was probably written for common consumption for it was serialized in *The Illustrated Weekly Of India*.

The present reviewer is not against popular accounts being written by anthropologists or other social scientists. But the book under review disappoints even as a popular account. There have been better books by anthropologists of their encounters in the field.

The history presented in *The Light Continent* is unrealistic (e.g. "It is since less than fifty years that it (prostitution) has become a problem for East Africa") and even wrong (the Uganda Railway did not reach Uganda until over a quarter of a century after the date given here). Its anthropological criteria are crude (e.g. "the Equilibrium of nature", "simple happiness", "the real Africa") ; its comments on culture contact jejune (e.g. "the introduction of European clothing offers probably the most acute and most damaging aspect of ill-applied Westernization"), and its prognoses naive (e.g. "The young African will to live and to create its own African ways of life has a good chance of success, especially if it makes full use of the matrilineal concept with its power to condition personality harmoniously into culture and to integrate the indi-

vidual—both male and female"). The more's the pity, for Professor Ehrenfels gives evidence of an ability to write a prose which can be poetically evocative.

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INDONESIAN SOCIETY IN TRANSITION BY W. F. WERTHEIM.
THE HAGUE AND BANDUNG : W. VAN HOEUE LTD., 1959. PAGES : xiv
+394. PRICE : NOT QUOTED.

The author has prepared a comprehensive, well-documented introduction to the development of Indonesian society. Its main focus is the contemporary condition of Indonesia as comprehended against the background of the archipelago's complex past. The principal dimensions of life are discussed informatively and, at the same time, in a manner which is more than ordinarily provocative for a work of this kind because the author is not reluctant to let the reader have a glimpse of his personal values concerning some of the events and patterns he elucidates.

After some comments on the geography of Indonesia, the narrative explores historical and structural trends in political life, economic relations, the status system, urban development, religion, labour relations, and cultural dynamics. There is a special chapter dealing with the nationalist movement, which to an important extent is comprehensible only after the salient aspects of the former dimensions have been amplified.

Civilized Javanese society seems to have had its beginning in the same basic patterns of economic and cultural relationships which by now scholars associate with pre-industrial civilizations wherever they have occurred. That is, there were small cities housing an aristocratic elite surrounded by the bureaucratic officialdom, military organization, and skilled artisans who served their wants ; and there were hinterlands consisting of agriculturalists who were dominated by the former and compelled to yield-up surpluses of goods and services for their support. Only Indonesian society was inevitably subdivided into two manifestations of this basic 'Bronze Age pattern'—a fact dictated by her unique insular position athwart the major artery of sea-born commerce and communication between South Asia and the Far East. These were (a) the 'harbor principalities' consisting of seaport cities of considerable cosmopolitan composition engaged in transoceanic trade for a livelihood and manifesting a rural hinterland consisting of shifting cultivators (in part dictated by the sparse population along the coasts) and (b) the 'inland principalities' in Central and East Java where a densely settled, rice-cultivating peasantry was exploited by a more provincial, courtly nobility.

This is the foundation upon which in historical succession Hinduism, Islam, and European imperialism impacted. Together,

this foundation and its historical accretions presumably help us to account for modern Indonesian society with its peculiar set of problems, including President Sukarno. Within the restricted compass of a review, however, it is not possible to comprehensively analyze all points made by the author. His scope is too vast. Instead, I shall concentrate only upon some personal impressions which may illustrate the kind of impact this book can have upon an average reader.

Regarding change, Professor Wertheim sets the theme for his view of it in Indonesian society by employing a kind of Rip Van Winkle analogy: "If a Javanese peasant, who had fallen asleep in 1600, were to awaken today he would find a good deal to gape at" (p. 12). At the same time, however, "social change was comparatively slow in Java . . . Tradition still plays an extremely important role in Javanese village life . . ." (p. 13). As one reads on, however, into the history of Dutch rule one discovers evidence that the explanation for the simultaneous appearance of 'progress' and 'non-progress' in Indonesia are a consequence of the same economic, social, and cultural paradoxes which Western colonial penetration tended to create wherever it occurred — whether in Africa, the Middle East, India, or Indonesia. Despite Professor Wertheim's own mild judgement on Dutch rule, in which he feels that in the overall, "the *Pax Neelandica* meant a significant improvement when compared with the former feudal conditions," one nevertheless gets a hint of what lay behind the paradoxes when he asserts that the colonial regime *only* (*sic*!) proved "a heavy burden" where the Dutch were tempted to "exploit intensively an abundant labour or to encroach drastically upon native land rights, as on the densely populated island of Java" (p. 65). For this, after all, hits squarely upon the issue: The colonial powers organized in each instance an administrative, communication, transport, and commercial complex whose purpose was the 'intensive' exploitation of 'abundant' native labour, the structure of whose indigenous resources (i.e., 'native land rights') had been altered (e.g., cash-cropping, mining, plantations) to serve the requirements of the mother country's industrial economy, or more particularly the personifications of her economy in the form of traders, merchants, corporations, etc.

Such a pattern of 'development' inevitably meant the 'modernization' of natives who had to be brought into the extractive side of economic activity, and its administrative adjuncts, but just as inevitably meant the *deep-freezing* of 'modernization' in the sphere of industrial production for the simple reason that this was deliberately prevented from changing, in the sense of basic technology, because it constituted a threat to the industrial community at home. The consequence in Indonesia appears to be the same as in India, China, and elsewhere: Just enough modernization to set off the demographic explosion and the 'idea of modernization' with all their attendant dislocations but insufficient modernization to give any hope of successfully coping with the former short of extreme, perhaps totalitarian, measures (as witness Dr. Sukarno's 'guided democracy'). Unfortunately, the full proportions of the problem

are difficult to assay in Indonesia because the Dutch, unlike their British brethren in India, never undertook even a comprehensive census of their rich colony throughout the entire period of their rule!

One thing that is not faced by Professor Wertheim, as it is not faced by most writers on India, is this : Whether Indonesia might not have 'developed' without the helping hand of imperialism and, without this encumbrance, might not have done so more painlessly ? We note for India that indigenous reform tendencies were afoot prior to the advent of John Company (e.g., *Bhakti*). And in Japan, let us never forget that 'modernization' came as part of a *restoration of the ancient monarchy* and, under the umbrella of *tradition* (which Professor Wertheim contradisposes to *modern* — cf, pp. 12, 65, etc.) ; and minus the onus of colonial domination, this nation became the only one in Asia with anything resembling a truly modern economy.

Despite my disagreements, however, Professor Wertheim's book represents a stimulating and richly informative work on Indonesia, valuable primarily because it causes the reader to think seriously about the contemporary dilemmas afflicting that great society.

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SANSKRITIK MANAVASHASTRA by MELVILLE J. HERSKOVITS. TRANSLATED INTO HINDI BY RAGHURAJ GUPTA. DEHRA DUN, DELHI, LUCKNOW : BHARATI BHAWAN, 1960. PAGES xvi + 648. FIGURES AND PLATES. PRICE : LIBRARY EDITION Rs. 20.00, STUDENTS' EDITION Rs. 16.00

Sanskritik Manavashastra, a translation of Melville J. Herskovits' *Cultural Anthropology* will be widely welcomed by both teachers and students of anthropology in India. During the last decade several books starting with *Bhartiya Samaj*, *Sanskriti Tatha Sams-thayen* (1951), written by the present reviewer, have appeared in Hindi. Many of these books contain wrong information and inappropriate translations. They are also examples of plagiarism. The result has been that these books are spreading an Anthropology which is much different from the Anthropology taught in the classrooms. In this distressing situation the authentic translation of a standard text-book like Herskovits' *Cultural Anthropology* will provide a turning point at the turn of the decade.

A Hindi translator has to face two most important problems today. The first is the paucity of technical terms, and the second is the communicability of Hindi for objective facts. For solving these problems the translator has followed four principles (preface, iv and v). He has given first priority to the terms available in the folk-dialects of Hindi and second priority to the terms used in the Sanskrit classics. When the translator could not find equivalent

terms from either of the two sources, he himself attempted to coin appropriate words for English terms. In this effort he was guided by the exact connotations of English terms, easiness of pronunciation of Hindi words and their communicability for the connotations of English terms. In this effort he leaned on the writings of many persons well-versed in folk-dialects and Sanskrit literature. The fourth source is his own previous writings. The translator is opposed to the policy of pure Sanskritised terminology, alleged to be propounded by Raghuvara in preparing his well-known dictionary of technical terms. (If one cares to go through the pages of this dictionary, one would find words from folk-dialects also.)

If one goes through the whole of *Sanskritik Manavashastra*, one would find the preponderance of Sanskrit words. A small number of words drawn from folk-dialects and English and Urdu have been used to prove the unorthodoxy of the translator in accepting words from sources other than Sanskrit. 'Khar' for 'core', 'chakmak' for 'flint', 'katran' for 'flake', 'phalak' for 'blade' and 'auzar' for 'tool' are some of the words borrowed from folk-dialects; 'machine', 'totem' and 'taboo' are some of the words borrowed from English; and 'nasla' for 'race', and 'kabila' for 'tribe' are some of the words borrowed from Urdu. However, his maximum dependence on Sanskritic sources is evident from the book.

Some of the translations of technical terms used in this book have presented three kinds of problems to the reviewer. First, for two or more English terms the same Hindi term has been used, e. g. for 'situation' 'paristhiti' and for 'ecology' 'paristhitishastra' have been respectively used on pp. 477 and 396; 'artha' has been used for both 'meaning' and 'connotation' on p. 472. For both 'rite' and 'ritual', 'anusthan' has been used on pp. 342 and 273 respectively.

Secondly, for the same English term several Hindi words have been used. For example, for the term 'race' 'nasla' or 'prajati' and sometimes both alternatives have been used (pp. 84-85); for 'variation', 'bhinnata' (p. 496) and 'parivartan' (p. 497); for 'ceremonial' and 'ceremonialism', 'karma-kanda' (p. 112) and 'sanskarvada' (p. 222); for 'determinism', 'nirnayakvada' (p. 303) and for 'determination', 'nirdharan' (pp. 346-7); and for 'surplus' both 'bachat' (p. 161) and 'adhikeya' (p. 155) have been used.

Thirdly, certain translations have raised doubts with regard to their appropriateness. The English term 'dynamics' is used in two senses. In one sense it denotes a science and in another sense it denotes a moving force. In the first sense it can very well be translated as 'gatishastra' but not in the other sense. For 'cultural dynamics' use of the term 'gatishastra' (pp. 470-1) does not seem to be appropriate. The term 'sanction' has been translated as 'swikritiyayen' (pp. 263-4). Translated back into English it would mean 'acceptances'. A sanction, in fact validates or ratifies an acceptance. This connotation cannot be derived from the Hindi word 'swikritiyayen'. The term 'Animism' has been translated as 'sarvasajiwattwavad' (p. 203). The term 'Aminism' has been used by Tylor in the broader sense of spiritualism, i.e. the general belief in spiritual beings and not to denote that all objects are animate. His

emphasis is on 'soul substance'. The Hindi term used for 'Animism' signifies that all objects are animate. It does not lay any emphasis on 'soul substance'. Translation of 'spiritual beings' as 'adhyatmik prani' (p. 202) is also not appropriate. 'Adhyatmik prani' denotes a person holding spiritualistic beliefs and not spiritual beings.

The above problems have, by no means, been presented to discredit this by-far-the-most-valuable contribution to Hindi literature on Anthropology. The aim has been to indicate the difficulties inherent in such a gigantic task.

Fiftynine sketches, fifteen plates, and one hundred pages of references, bibliography and index have made the book doubly valuable to the Hindi readers. Herskovits has written a special preface for it and the translator contributes an introductory note. Its printing and pleasing get-up show that in spite of the heavy cost of production the publishers have been keen on maintaining the standard set by the original publication. Both the translator and the publishers amply deserve congratulations from everybody interested in enriching Hindi literature. The reviewer hopes that all such persons will join him in thanking the translator for heralding a new era in Hindi literature in the field of Anthropology.

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BHILS OF RATANMAL BY Y. V. S. NATH, BARODA : THE MAHARAJA SAYAJIRAO UNIVERSITY OF BARODA, 1960. PAGES :xiv + 229, PHOTOGRAPHS. PRICE Rs. 10.00.

The Bhils, although numbering well over a million and a quarter, have received rather scanty attention from anthropologists. The volume under review is, therefore, a welcome addition to our meagre knowledge of the Bhil.

The writer begins with a lucid presentation of the spatial and temporal setting. The following chapter on Economic Organization, however, is not precise enough. The writer should have been a little more critical of the palpable overstatement of his informant that the land which has now been yielding one maund with settled cultivation used to yield five maunds with *bhattia* or shifting cultivation. One would also be skeptical about the statement that the Bhil could get about five to six crops from a single clearing (p. 24).

The major emphasis of this monograph is, of course, on social structure. In this, the author has been guided very closely by the British School of Social Anthropology. Thus, clan, lineage, kinship and the relation between lineage and local community are the topics which receive detailed attention. Similarly, the chapter on religion and witchcraft has been presented mainly in relation to social structure and not as a pattern of beliefs as such.

While appreciating the devotion with which principles of social structure have been pursued in this book, one cannot help stating

that one does not get a wholesome feel of the Bhil culture through this monograph. There is not enough description of the rites of passage, festivals, belief, systems and values; not to speak of the aesthetic and the other expressive aspects of culture. From Grierson's Linguistic Survey of India we learn that the basis of Indo-Aryan Bhili of today might have been Munda or Dravidian. Unfortunately, ethno-historians will not get enough data on Bhil traditions in this book for comparison with the traditions of the Munda-speaking tribes.

Another source of uneasiness in this book is that the reader does not get an idea of the direction towards which the Bhil society has been moving in positive or negative response to the pull of power and prestige in its ethnic environment.

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THE TANGSAS OF THE NAMCHIK AND RIRUP VALLEYS BY
PARUL DUTTA. SHILLONG : NORTH-EAST FRONTIER AGENCY, 1959.
PAGES : ix + 98. PRICE : Rs. 3.50.

THE DAFLAS OF THE SUBANSIRI REGION BY B. K. SHUKLA.
SHILLONG : NORTH-EAST FRONTIER AGENCY, 1959. PAGES : ix + 135,
PRICE : Rs. 4.00.

These small books are the result of investigations carried on among two tribes of NEFA by Assistant Research Officers of the NEFA Administration. The information collected has been arranged under five chapter headings, viz, Land and People, Domestic Life, Social Life, Political Life, and Religion and Ceremonies.

From the arrangement and the treatment of the material, it appears that the data, in the two different tribes, was collected under the same plan. The investigators do not seem to have cared much for details. The result is that the books are sketchy, lacking in richness of material, comprehensive treatment and above all a scientific approach, usually associated with anthropological monographs. If the two monographs are to be compared, *The Daflas* is a better attempt and provides more detailed cultural data. At least the author has taken care not to proclaim that he has presented the results of his "investigations in as popular a manner as possible avoiding details likely to be boring to an ordinary reader, though of interest to scientists" (*The Tangsas*, Preface). Popularity at the cost of scientific details seems a very high price to pay.

Although *The Daflas* is the outcome of one year's work among the people and a prelude to a bigger volume, it is in no way much superior to *The Tangsas*. However, it includes a three-page selected bibliography-index which is missing in *The Tangsas*. The chief feature of the latter book is its glossary of tribal words running to about nine pages.

Both the books contain halftone and line-drawing illustrations which are very good and for these and the attractive get up the publishers deserve praise.

We hope these books will be read by students of Indian Ethnography though they may not find in them meat sufficient for their purpose.

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Government of India

R. D. Singh

UNDERSTANDING HUMAN SOCIETY BY WALTER GOLDSCHMIDT.
LONDON : ROUTLEDGE & KEGAN PAUL, 1959 (BUT NOT PUBLISHED
UNTIL 1960). PAGES : 253. PRICE : 21 s. net.

The book under review is written by an accomplished author who has a clear understanding of the subject he deals with. His crisp, lucid and clear style of writing attracts the reader greatly. Harping on 'generals' of human society, he also chooses specific examples to clarify various points under discussion. Summarisation and restatement are also resorted to whenever and wherever necessary.

As envisaged by the author "we are concerned with the understanding of society itself ; not with problems of amelioration, nor with programmes of action," in this volume. Dividing the theme under several headings such as The Biological Constant, The Dimensions of Anthropological Theory, The Social Imperatives, The Mechanism of Social Evolution, Evolution and the Social Imperatives, The Evolution of Society and The Scientific study of Society, the author gradually but continually moves towards an emphasis upon the sociological and evolutionary contributions to the understanding of human society. Rounding off the discussion on The Dimensions of Anthropological Theory, the author emphasises the eclectic approach in which "each kind of explanation *requires* the others; that, say, in order to understand a phenomenon sociologically requires a proper psychological orientation, and so on."

Although evolutionary theory in anthropology has been under attack for more than half a century, there is no doubt that, "there has been a progressive development of man's knowledge from the time he first took on human form to the present." He dissociates modern evolutionary theory from the classical one of nineteenth century and the evolutionary thesis propounded in his book aims to be neither teleological, nor ethnocentric. He holds that the use of the word *evolution* is more appropriate than that of *development*, though some feel the other way about it. It is interesting that the author looks at the evolutionary theory as also a functional theory in the sense that "internal congruity and functional fitness of the various aspects of culture" are among the basic elements in the dynamics of cultural evolution. However, it is apparent in his use of the term 'function' that it is different from the British usage and connotes, a harmony, a patterning, an internal consistency and a congruity

both on psychological and social levels. He develops the point further and says that congruity, the internal harmony of institutions, is a principle necessary to the understanding of the character of social evolution, whether it be Malinowskian functionalism, Benedictian patterning, or the sociological concept of equilibrium. Evolutionary theory offers 'a significant taxonomy', a rough blue print of the course of human history. He outlines five basic elements in the dynamics of cultural evolution, namely technological growth and development, concomitants of the former, process of selective change, cultural continuity, and internal congruity and functional fitness. Technological development is taken to play a larger role than the other ones. His account of evolution is chiefly built upon the data of archaeology and ethnology, ecology and technological development.

In a nutshell, Goldschmidt has restated with a different perspective, the case for social evolution. It, however, remains to be seen if his theory of social evolution really escapes teleological and ethnocentric elements in its application to various social institutions.

The book is stimulating and presents Anthropology in the light of the recurrence of concern with social evolution.

Kanya Kubja College,
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